ASSERT4SOA
Advanced Security Service cERTificate for SOA

ASSERT4SOA will produce a new security certification process for Service-Oriented Architectures.

Current certification schemes are either insufficient in addressing the needs of service-based scenarios or not applicable at all and thus, they cannot be used to support and automate run-time security assessment. Existing certification schemes simply do not support a means to evaluate the trustworthiness of a composite application in the context where (and at the time when) it will be actually executed.

ASSERT4SOA will fill in this gap by producing novel techniques and tools – fully integrated within the SOA lifecycle – for expressing, assessing and certifying security properties for complex service-oriented applications, composed of distributed software services that may dynamically be selected, assembled and replaced, and running within complex and continuously evolving software ecosystems.

Members of ASSERT4SOA Consortium:

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➢ 36 Months

Call:

➢ FP7- ICT 2009 5

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Project Description

Current trends in the IT industry suggest that software systems in the future will be very different from their counterparts today, due to greater adoption of Service-Oriented Architectures (SOAs), the wider spread of the deployment of Software-as-a-Service (SaaS), and the increased use of wireless and mobile technologies. These trends point to large-scale, heterogeneous ICT infrastructures hosting applications that are dynamically built from loosely-coupled, well-separated services, where key non-functional properties like security, privacy, and reliability will be of increased and critical importance.

Pushing the SOA vision on an open ICT infrastructure requires careful re-thinking of current development, testing, and verification methodologies, and introduces the need of new assurance techniques that will increase the users' trust that services will satisfy their functional and non-functional requirements. The term *certification* has several different meanings in ICT. Software practitioners can earn a certificate for expertise in a certain hardware or software technology. The maturity of crucial IT processes, such as software development, can be – and is often – certified. Even individual software systems can be certified as having particular non-functional properties, including safety, security, or privacy. In the ASSERT4SOA vision, certification is fundamental to establish a trust model suitable for service ecosystems.

The **ASSERT4SOA** project is aimed at supporting new certification scenarios, where the security certification of services is required and plays a major role. Current certification schemes in fact cannot be used to support and automate run-time security assessment. As a result, today's certification schemes simply do not provide, from an end-user perspective, a reliable way to assess the trustworthiness of a composite application in the context where (and at the time when) it will be actually executed.

ASSERT4SOA will fill in the gap of existing security certification process by specifying a process and providing an architecture for the management of service certification.

ASSERT4SOA will deliver the first solution for bringing certification-based assurance to service-based systems through:

- Scientific reports on the adoption and integration of a security certification for services in a SOA environment
- Clear requirement definitions and refinements
- Certification architecture specification
- Prototypical implementation and practical evaluation
- Standardization of Web Service certification

ASSERT4SOA relies on existing SOA standards and certification processes in order to provide a solution and an architecture that will integrate and extend the Web service environment with a security certification process for services. ASSERT4SOA will:

- build a novel solution for service security certification;
- provide an approach that allows run-time management of security, privacy, and reliability properties of individual services, and of the business processes and applications based on them;
- demonstrate the benefits of integrating a certification process within the SOA's automatic service selection and composition processes;
- research the obstacles to practical adoption of a service security certification process.

Website:

➢ www.assert4soa.eu

Further Information:

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