



FP7 Proposal discussion for Call 1: Global TSD Assurance within Systems of Systems

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SecurIST Networking session
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European Software Institute (ESI)
Tecnalia



Challenge



Changes on System Features & Challenges:

- **Size:** FROM Stable systems, predictable behaviour, of great size TO Greater & more complex systems, dynamic interaction, composed by million agents, sharing a pervasive space.
- **Connectivity:** FROM Static or semi-dynamic systems TO Mobile-systems & ad-hoc.
- **Mobility:** More potential vulnerabilities and risks (nomadic systems).
- **Scope:** FROM Organized and delimited context TO Autonomous and no-delimited context
- **Heterogeneity:** Components, sub-systems, etc, coexistence in form of SoS.
- **Complexity:** Increasing HW & SW complexity, increasing challenges of dependability, security, management, etc.
- **Distribution of knowledge:** Interconnected groups will cooperate and work altogether.
- **Approach:** Services Ecosystem

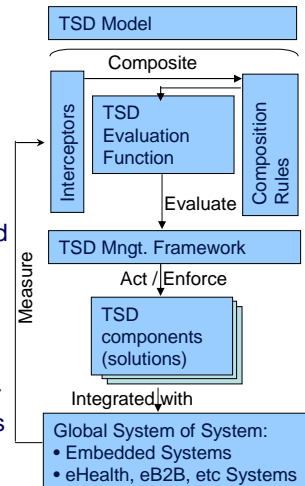


- *Trust, Security & Dependability (TSD) require an approach different to the current one, for the SoS development within Ambient Intelligence or other:*
 - OBJ1: Trust Model of Attributes & Metrics for TSD: For Modelling, Analysis, Management, Monitoring & Measuring TSD. It provides:
 - **TSD Attributes, Metrics, Trust Levels, Trust Values Schema.**
 - **Composition, transference & computational mechanism of TSD.**
 - **TSD Evaluation & Certification Schema.**
 - OBJ2: Security Engineering Methodology for SoS development:
 - **Development Lifecycle + Methodology + Best Practices**
 - **Semantic Specification for TSD**
 - **Risk Analysis & Management**
 - OBJ3: Repository of Mechanisms to provide TSD & QoS
 - OBJ4: Middleware to Management & Monitoring TSD. It provides help to:
 - **Specify the needed TSD Profile**
 - **Measure & Monitor the current systems TSD Profile**
 - **Manage & Enforce Mechanisms from the Repository to ensure the needed TSD Profile**
 - OBJ5: Integral Platform + Prototypes

- Trust, Security & Dependability (TSD) Framework:

Property	Metric	TSD-Solutions
A, R, S, C, I, M...	Desired / Real	Security components activation/enforce

- Provides means to retrieve metrics for attributes and composite them within a system of system
- Provides means to compare and seek components with specific TSD levels / profiles
- Provide means towards the certification
- Provides means to influence attributes, activating or enforcing solutions to achieve especified TSD levels
- Provides means for formal specification of TSD requirements (semantic)
- Security Engineering



- Instrument: Collaborative Project /Obj. 3.1.1.3

Coordinator	ESI or other candidates
R&D	Univ. / Tech. Centres. Knowledge in: TSD, maths to compute and compose trust attributes, security engineering, formal languages and semantic models for TSD specification.
TSD Experts	Knowledge in: Services composition; TSD mechanisms; Secure infrastructures & architectures; Trustworthy deployment of services; Assurance methods-formal methods & specification for design, development & testing; Authentication across service layer; Policy Mngt & Enforcement; Trusted computing; certification; etc
Industrial	For demonstrators: Critical Infrastructures, Embedded Systems, eB2B, eHealth, etc

- Criteria for potential partners: send CV + contribution/role
- Discuss next steps: meet after session, emailing.

**Ruben Alonso /
Estibaliz Delgado**
R&D Projects Area
Information Security Dpt.
Ruben.Alonso@esi.es
Estibaliz.Delgado@esi.es

Parque Tecnológico, # 204
E-48170 Zamudio
Bizkaia (Spain)
Tel.: +34 94 420 95 19
Fax: +34 94 420 94 20
www.esi.es