ARTOSC – Automated Runtime Testability of SOA Composites

**Challenge**

Runtime Testability and Testing for Service-Oriented Architectures (SOA)

- **SOA Challenge**
  SOA systems must provide their services 24/7.
  Assembly and integration of components/services during runtime.

- **Testing Challenge**
  Check that updated/evolving SOA system still provides its services as expected.
  Testing must be performed during runtime.

**Research Questions**

- To which extent can built-in testing (BIT) be applied on SOA platforms?
- How much of the BIT infrastructure can be built into the SOA runtime platform?
- How much support should be provided by the services themselves?
- To which extent can model-based testing techniques be applied in SOA runtime testing?

**ARTOSC Technologies**

Adapted BIT technology supporting a service S1 to acquire a service S2 dynamically

- Testing interfaces of S1 invoke testing services of S2 (S2 tester).
- Testing services assess compliance with the expected protocol.
- Testing protocol is coming from models built into the services themselves.
- Testing services report on the compliance of pair-wise acquisition.

**Benefits**

ARTOSC addresses two dimensions of engineering: cost & quality

- Faster SOA evolution, reconfiguration and deployment through automated runtime assembly and runtime testing.
- Better SOA Quality through standardized and automated testing processes.

**Contact**

**Industrial partner**

Logica CMG
Dept. Industry, Distribution & Transport

**Research institution**

Delft University of Technology
Software Engineering Research Group

http://swerl.tudelft.nl – Projects – ARTOSC
http://swerl.tudelft.nl/bin/view/Main/ARTOSC