

Challenge

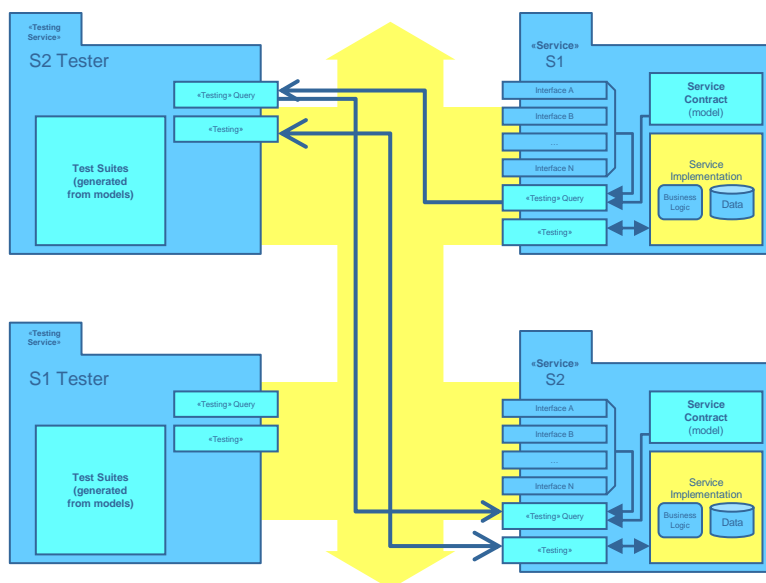
Runtime Testability and Testing for Service-Oriented Architectures (SOA)

- **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



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>