WSDL Analyzer

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Table of contents

1. Datasheet

Solution data	
Name	WSDL Analyzer
Result type	Tool
Description/functionality	A tool for detecting syntactical similarities between Web service descriptions. The WSDL Analyzer is a tool for detecting similarities between Web service descriptions (WSDL files). The tool can be used to find a list of similar services and produces a mapping between messages, thereby enabling brokering and mediation of services. A possible scenario for using the WSDL Analyzer is that the user already knows a service which provides the correct format. The WSDL of this service can be used as requirement for a similarity search. The WSDL Analyzer allows browsing the original WSDL and the candidate files. The algorithm detects common structures in port types, operations, messages and data type definitions. WordNet is integrated to improve the matching result. Mappings are assessed with a score which is used to establish a ranking between candidate service descriptions. Based on the similarities, a mapping is generated between two WSDL descriptions which can be used to transform SOAP messages exchanged between similar services at runtime. The result is a ranking of the candidates according to their matching score. The translation can be done automatically, if there is a one-to-one correspondence between elements. However, if several possible corresponding elements exist, translation requires intervention from a user in order to unambiguously transform parameters. The latter case shows the limitation of the structural approach. There are possible mismatches which can be detected with the help of the WSDL Analyzer, but not automatically corrected.
Benefits to interoperability	• The result supports the detection of inconsistencies between Web Services. If a one-to-one mapping between elements exists, the result supports automatic correction of the mismatch. • The result supports the IT Architect with

	resolving service mismatches in the case of system evolution. • The algorithm of the WSDL Analyzer improves over an existing algorithm for finding structural similarities taking into account additional features of the WSDL structure. More specifically, we make use of the tree-edit distance measure and the concept of a weak subsumption relation.
Supported models/methodologies	WSDL
Supported input interfaces	-
Supported output interfaces	-
Validation/demonstration	• EADS: Change management process • CRF: Automotive Pilot
Standards compliance	• http://www.w3.org/TR/wsdl
Availability	-
License	-
Status	-
Requirements/dependencies	-
Web references	• Installation and user guide: http://athena.troux.com/Team/Repository/Projects/Project_223/Uploa
ATHENA metadata	
Contact person	Klaus Fischer, DFKI
Contributors	DFKI
Provided by project/activity	• A5 – Planned and Customisable Service-Oriented Architectures
Deliverables representing result	• D.A5.3: Architecture of SOA platforms (M21) • D.A5.4: Execution Framework(s) for Planned and Customisable Service-Oriented Architectures (M21)
Contribution to key result	• 8: Interoperability Infrastructure • 12. Service Composition Framework
Used in pilot	• EADS: Change management process • CRF: Automotive Pilot

| Deliverable providing evaluation | D.A5.5 "Validation of Research Results" (M24) |