

PIM4SOA (Platform-independent model for service-oriented architecture)

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1. Datasheet

Solution data	
Name	PIM4SOA (Platform-independent model for service-oriented architecture)
Result type	Metamodel
Description/functionality	<p>ATHENA is addressing business and IT needs with specialized and appropriate methods and tools. To bridge the gap between business (comparable to the CIM level in MDA) and IT (comparable to the PSM level in MDA) ATHENA defined an intermediate technical level which is comparable to the PIM level in MDA. To ensure consistence across all levels the transformation of models between the technical (~PIM) and IT level (~PSM) level is crucial. ATHENA provided multiple transformations in this context addressing different metamodels.</p> <p>The PIM4SOA metamodel defines an abstract language to specify executable business processes that execute within an enterprise and may collaborate between otherwise independent business processes executing in different business units or enterprises.</p> <p>The main objective of the specification is:</p> <ul style="list-style-type: none"> • The ability to exchange business process specifications between modelling tools, and between tools and execution environments. <p>PIM4SOA is closely aligned and has been based on the Business Process Definition Metamodel that is in the process of standardization by OMG. However as the standardization did not completed in the timeframe of Athena the PIM4SOA metamodel was developed as a simplified version.</p> <p>In order to reduce the gap between enterprise models and the service oriented implementations, we have applied a model driven architecture approach to enterprise architectures in the implementation of the PIM for SOA (PIM4SOA).</p> <p>The PIM4SOA identifies four aspects where specific concerns can be addressed:</p> <ul style="list-style-type: none"> • Information: in the context of virtual enterprises information represents one of the most important elements and other aspects are based on it. • Service: our main intention is to be able to

	<p>describe SOA indepently from the technologies used. Service represents business accesible functionality</p> <ul style="list-style-type: none"> • Process: Processes describe a set of interactions amongst services in terms of messages exchanged • Quality of service: Based on the current proposal, we have integrated the main elements to describe quality of services.
Benefits to interoperability	<ul style="list-style-type: none"> • Basically the PIM4SOA allows the definition of SOA models independently from the technology used. • In addition it allows to share SOA models and to bridge the gap between enterprise models and ICT implementations.
Supported models/methodologies	-
Supported input interfaces	-
Supported output interfaces	-
Validation/demonstration	The eprocurement scenario has been used to validate this approach.
Standards compliance	<p>This metamodel is based on:</p> <ul style="list-style-type: none"> • EMOF: Essential Meta Object Facility (http://www.omg.org/docs/ptc/03-10-04.pdf)http://www.omg.org/docs/ptc/03-10-04.pdf • UML Profile for modeling quality of service and fault tolerance characteristics and mechanisms. Object Management Group (http://www.omg.org/docs/ptc/04-09-01.pdf)http://www.omg.org/docs/ptc/04-09-01.pdf
Availability	<ul style="list-style-type: none"> • Documentation • Ecore metamodel format
License	Eclipse Public License
Status	Prototype
Requirements/dependencies	n/a
Web references	<ul style="list-style-type: none"> • Website: http://pim4soa.sourceforge.net/ • Source code: http://sourceforge.net/projects/pim4soa/
ATHENA metadata	
Contact person	Xabier Larrucea, ESI
Contributors	ESI, IBM, SINTEF

Provided by project/activity	<ul style="list-style-type: none">• A6 – Model-driven and Adaptive Interoperability Architectures
Deliverables representing result	D.A6.4 “Model-Driven and Adaptable Interoperability Infrastructure” (M24)
Contribution to key result	<ul style="list-style-type: none">• 13. Model-driven and Adaptable Interoperability Framework and Infrastructure
Used in pilot	<ul style="list-style-type: none">• AIDIMA: eProcurement pilot
Deliverable providing evaluation	D.A6.4 “Model-Driven and Adaptable Interoperability Infrastructure” (M24)