The Daios Framework - Dynamic, Asynchronous and Message-oriented Invocation of Web Services

Motivation
- Static Stubs cannot be used to create SOAs
- Dynamic Service Invocation necessary for "Publish - Find - Bind"

Daios Features
- Simple client-side Interface
- Message-based Interaction Model
- Asynchronous Communication
- Support for SOAP and REST
- Support for RPC/encoded and document/wrapped
- Top-Notch Performance (see Evaluation Results)
- Extensible

Components
- Frontend Framework
- Preprocessor
- WSDL Parser
- XML Schema Parser
- Dynamic Invoker
- SOAP Stack
- REST Stack
- Daios Messages

Architecture

Sequence of Action

// preprocessing
ServiceFrontend frontend = factory.createFrontend(URL_TO_WSDL);

// invocation
frontend.requestResponse(input);

Performance Comparison

Related Work

Apache WSIF
- First WS Framework with Dynamic Invocation Interface

Apache Axis 2
- Supports
- Asynchrony
- Complex Types
- REST
- No Support for
- Asynchrony
- Complex Types
- REST
- Low Runtime Performance
- Dynamic Interface expects explicit Knowledge of the Service’s WSDL Interface