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

Performance Comparison
- String operation, document/wrapped
  - Daios
  - Apache WSIF
  - Apache Axis 2
  - Codehaus XFire
  - Apache CXF

Architectue

Related Work

Apache WSIF
- First WS Framework with explicit dynamic Interface
- No Support for
  - Asynchrony
  - Complex Types
  - REST
- Low Runtime Performance

Apache Axis 2
- Supports
  - Asynchrony
  - Complex Types
  - REST
- Strong Runtime Performance
- Dynamic Interface expects explicit knowledge of the Service's WSDL Interface