

xorb / xosoap — Remoting for OACS / .LRN

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Overview



What drives us ...

Features & Architecture

Consuming a remote service

Providing a remote service

Hooking-in add-on functionality: Interceptors

What remains to be done ...

Get glimpse of xorb / xosoap

What drives us ...

Features & Architecture

Features (I)



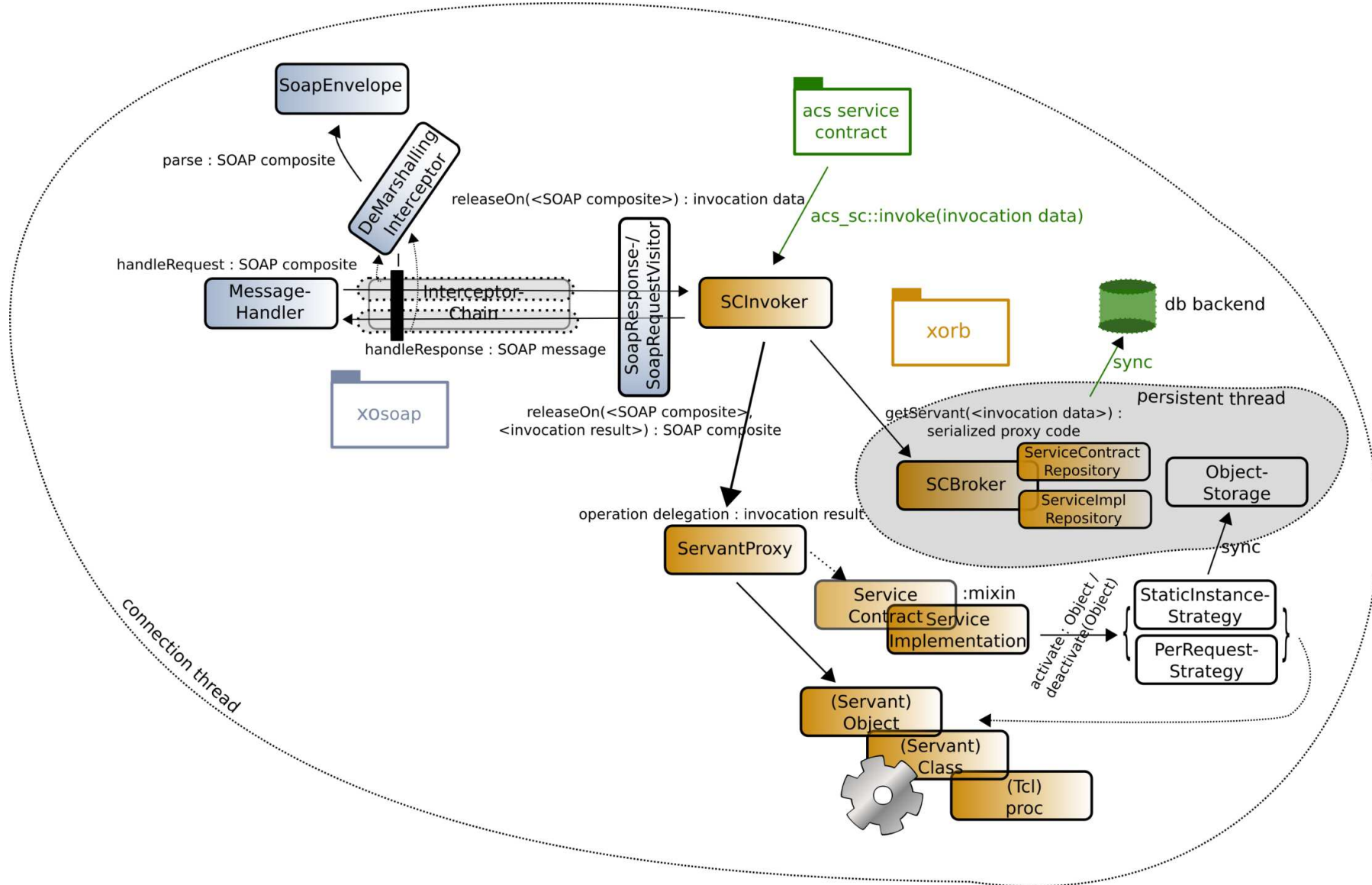
- xorb (p: xotcl-request-broker) — *XOTcl Request Broker*
- xorb mainly provides
 - A more generic invocation dispatcher, supporting local (following original ACS Service Contracts) and remote redirection (protocol-plugins: xotcl-soap).
 - An OO-interface that wraps up OpenACS's Service Contracts / Implementations (package: acs-service-contracts).
- xorb extends the original package by:
 - Object representations and caching of Contracts / Implementations (including signature-based synchronisation with data base)
 - Contracts / implementations are delivered "on demand", supporting "thin" connection threads in the future.
 - Resolving invocation requests: Currently an extensible selection framework for attribution of implementations to contracts, upcoming Invocation Contexts.
 - An extensible infrastructure to plug-in new remoting protocols, currently SOAP.

Features (II)



- xosoap (p: xotcl-soap) is a SOAP "Protocol Plugin" for xorb:
 - SOAP (1.1) Server Framework
 - SOAP (1.1) Client Framework
 - HTTP / HTTPS Transport Infrastructure
 - Native XOTcl component: xotcl::comm::httpAccess
 - Optionally: TclCurl
 - Currently allows for RMI style of interaction
 - XOTcl SOAP Parser (based upon tDOM)
 - Functional modularity (realised by Chain of Interceptors)
 - WSDL generation

Architecture



Consuming a remote service

Declaring a stub (I)



```
1  ::xotcl::Class StockQuote
2  StockQuote ad_instproc \
3      -stub \
4      -bind soap://64.124.140.30:9090/soap \
5      -uri "urn:xmethods-delayed-quotes" \
6      getQuote \
7      {-symbol:remote} \
8      {getQuote's doc} {}
```

Declaring a stub (II)



```
1  ::xorb::client::Stub StockQuoteStub --bind soap://64
    .124.140.30:9090/soap \
2  --uri "urn:xmethods--delayed--quotes"
3  StockQuoteStub ad_instproc \
4  getQuote \
5  {--symbol:remote} \
6  {getQuote's doc} {}
```

Providing a remote service

1: Declaring a contract

```
1 ServiceContract myContract –defines {
2     Abstract m1 –arguments {
3     arg1:string
4     arg3:integer
5     } –returns string –description "m1's description"
6 } –ad_doc {myContract's description}
```

2: Providing an implementation (a)



```
1 ServiceImplementation myImplementation –implements myContract
   –through {
2     Delegate m1 –proxies ::myproc
3 }
4
5 myImplementation publish
```

2: Providing an implementation (b)



```
1 ServiceImplementation myImplementation –implements myContract
   –through {
2     Method m1 {arg1:string arg3:integer} {doc} {return 1}
3 }
4
5 myImplementation publish
```

Hooking-in add-on functionality: Interceptors

Logging Interceptor



```
1  ::xosoap::Interceptor LoggingInterceptor —scope 0 —superclass {
2  ::xosoap::RequestInterceptor
3  ::xosoap::ResponseInterceptor
4  }
5
6  LoggingInterceptor instproc handleRequest args {
7
8  # 1) retrieve args
9  my log "incoming_request:␣$args"
10 # 2) modify args
11 # 3) pass on args or return
12 next [lindex $args 0] [lindex $args 1]
13
14 }
15 LoggingInterceptor instproc handleResponse args {
16 my log "outgoing_response:␣$args"
17 next
18 }
```


What remains to be done ...

What remains to be completed ...

- Collection of examples & teasers
- Polishing-up of xorb Interface: nearly finished
- Completing suite of regression test
- Advanced SOAP Support: Complex datatypes about to be included
- Implicit / automated stub generation from WSDL
- Lifecycling

Get glimpse of xorb / xosoap

Get previews from ...



- Two packages: xotcl-request-browser & xotcl-soap
- Subversion browsing: <http://stefan.thinkersfoot.net/websvn> (guest:guest)
- command line: `svn checkout http://svn.thinkersfoot.net/xosoap/trunk`
- command line: `svn checkout http://svn.thinkersfoot.net/xotcl-request-broker/trunk`

- Install procedures as for every OACS / .LRN package
- Currently 2 patches to xotcl-core are necessary (see readme in `www/doc` directories)
- For examples see `www/doc` in both packages
- Contact: stefan.sobernig@wu-wien.ac.at