gSOAP toolkit fact sheet

- Intended for C and C++ (with optional use of STL containers)
- Client and server (HTTP/S Web server and SOAP/XML engine included)
- High-performance Web services (measured with 2.2KB XML messages over HTTP):
  - 3241 roundtrip calls per second on AMD FX-53 2.4GHz, 64-bit Linux 2.6.5
  - 2990 roundtrip calls per second on AMD Opteron 148 2.2GHz, 64-bit Linux 2.6.5
  - 2265 roundtrip calls per second on 2x Itanium2 1.4GHz, Linux 2.6.9 IA-64
  - 1936 roundtrip calls per second on Pentium4 3GHz (w/o HT), Linux 2.6.5
- Small footprint:
  - 73KB code and 2KB data for XMethods' delayed stock-quote client on Pentium4, Linux 2.6.5, gcc 3.3.3 -O1
  - 100KB code and 2KB data for Google API client on Pentium4, Linux 2.6.5, gcc 3.3.3 -O1
- Portable open-source C/C++ code, field-tested on the following platforms:
  - Windows Win32/Win64 (including NT, 2000, XP, Vista, Windows 7), MS-DOS (limited), and Cygwin
  - Linux (RedHat, SuSE, and any other "standard" Linux distro),
  - Unix (Solaris, HP-UX, FreeBSD, Irix, QNX, AIX, 64bit TRU64, and other)
  - Mac OS X (universal)
  - small and embedded OS (VxWorks, WinCE, Palm OS, Symbian).
- Testing and debugging:
  - automatic echo test server code generation (soapcpp2 -T option)
  - automatic request/response sample SOAP/XML message generation for testing
  - automatic leak detection in debug mode
  - SOAP 1.1 and 1.2 messaging tested and validated against "soapbuilders Interoperability round 2 A to C"
  - tested against eBay services, Amazon services, Google services, Wolfram services, Mappoint, and others
- Web service protocol compliance:
  - WS-I Basic Profile 1.0a, 1.1, and 1.2 compliant
  - fully WSDL 1.1, SOAP 1.1, and 1.2 compliant
  - full SOAP RPC encoding, SOAP rpc/literal and SOAP document/literal styles
  - request-response, one-way, one-way asynchronous message exchanges
  - SOAP-over-UDP
  - C14N-exc
  - interoperates with Axis (Java/C), PHP5, SOAP::Lite, SOAP4R, WCF, Weblogic, ZSI, and others
- Other XML-based protocol support:
  - XML-RPC
  - RSS
- SOAP attachments:
  - MIME (SwA)
  - DIME (streaming and non-streaming)
  - MTOM (streaming and non-streaming)
- WSDL 1.1 and XML schema specification support:
  - WS-I Basic Profile 1.0a, 1.1, and 1.2 compliant, WS-Policy 1.2 and WS-SecurityPolicy 1.2
  - WSDL to C and C++ source code generation
  - XML schema to C or C++ source code generation
  - C or C++ source code ("header file format") to WSDL and XML schema generation
- WS-* protocol support:
  - WS-Policy 1.2/1.5 and WS-SecurityPolicy 1.2
  - WS-Security (2004/01)
  - WS-Addressing (2003/03, 2004/03, 2004/08, 2005/03)
  - WS-ReliableMessaging
  - WS-Discovery (partial)
  - and others: user can translate WS-* protocols with the 'wsdl2h' translation tool
- UDDI v2
  - inquire API
  - publish API
- REST HTTP 1.0/1.1 and HTTPS support:
  - GET and POST (plugin support for PUT, HEAD etc)
  - cookies, compression, chunking, keep-alive
  - basic authentication, digest authentication, MD5 checksum
  - SSL/TLS encryption and certificate authentication
  - SSL session caching
  - proxies and proxy authentication
- Networking support:
  - IPv4 and IPv6
  - TCP
  - UDP unicast and multicast
  - GSI (Grid Security Infrastructure through plugins)
  - ... (other network stream handlers are available as plug-ins)
- Server module support:
  - Apache 1.x and 2.0 mod_gsoap
  - IIS (ISAPI)
  - WinInet
  - CGI
  - FastCGI
  - stand-alone (deamon)
- Architecture features:
  - integrated memory management
  - compiler-based XML serialization of native C and C++ data structures
  - custom serializers and DOM support
  - plug-ins for extensions (message logging, statistics, etc.)
  - internationalization/localization (UTF8-encoded UCS4 unicode, MB strings)
  - extensive documentation and numerous examples included