The gSOAP toolkit fact sheet - version release 2.8.12 and higher

- XML data binding toolkit for C and C++/C++11
- Type-safe data binding for XML with compiler-based XML serialization of C and C++ data structures
- User-definable custom XML serializers and XML-to-C/C++ mapping rules
- Internationalization/localization (UTF8-encoded UCS4 unicode, MB strings)
- Extensive documentation and numerous examples included in the distribution package

- Client and server development is greatly simplified by automatic code generation
- Automatically generates code for client and server applications and XML data bindings with C/C++
- Supports standalone or IIS/Apache server for REST HTTP/S and SOAP/XML services
- Provides a plug-in architecture, supports various engine extensions (message logging, statistics, etc.)
- Integrated memory management and debugging features

- Available in portable source code, extensively field-tested on the following platforms:
- Windows Win32/Win64 (including NT, 2000, XP, Vista, Windows 7/8), MS-DOS (limited), Cygwin, MinGW
- Linux (RedHat, SuSE, and any other "standard" Linux distro),
- Unix-based (Mac OS X, Solaris, HP-UX, BSD, FreeBSD, Irix, QNX, AIX, 64bit TRU64, and other)
- Special platforms such as OpenVMS and NonStop (Tandem)
- Small and embedded systems (VxWorks, WinCE, Palm OS, Symbian, iOS, Raspberry Pi).

- High-performant
- 3241 roundtrip SOAP calls per second on AMD FX-53 2.4GHz, 64-bit Linux 2.6.5
- 2990 roundtrip SOAP calls per second on AMD Opteron 148 2.2GHz, 64-bit Linux 2.6.5

- Small footprint
- Only 73KB code and 2KB data for XMethods' delayed stock-quote C app on P4, Linux 2.6.5, gcc 3.3.3 -O1
- Only 100KB code and 2KB data for Google API C app on P4, Linux 2.6.5, gcc 3.3.3 -O1

- Integrated testing and debugging support
- 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/XML web service protocol compliance
- XML serialization format complies to the official W3C Databinding Interoperability working group
- WS-I Basic Profile 1.0a, 1.1, and 1.2 compliant
- SOAP 1.1/1.2 interoperability validated against soapbuilders Interoperability round 2 tests
- WSDL 1.1, WSDL 2.0, SOAP 1.1, and SOAP 1.2 compliant
- SOAP RPC encoding, SOAP rpc/literal and SOAP document/literal styles
- Request-response, one-way, one-way asynchronous message exchanges
- SOAP-over-UDP, UDP multicast
- Interoperates with Axis (Java/C), PHP5, SOAP::Lite, SOAP4R, Weblogic, ZSI, and other
- WCF with examples for basicHttpBinding, basicTransportSecurity, basicMessageSecurity, wsDualHttpBinding
- Attachment support: MIME (SwA), DIME, and MTOM (MIME/DIME streaming and non-streaming supported)
- UDDI v2 inquire and publish APIs

- RESTful XML, XML-RPC and JSON services
- REST XML web services
- REST XML-RPC protocol in C and C++
- REST JSON in C and C++, allows dynamic switching between XML-RPC and JSON data formats
- RSS 0.91, 0.92, and 2.0 protocols

- WSDL 1.1, WSDL 2.0, and XML schema (1.0 and 1.1) specifications compliant
- WS-I Basic Profile 1.0a, 1.1, and 1.2 compliant, WS-Policy 1.2 and WS-SecurityPolicy 1.2
- WSDL 1.1/2.0 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 1.1 and XML schema generation

- WS-* protocols
- WS-Policy 1.2/1.5 and WS-SecurityPolicy 1.2
- WS-Security (2004/01), provides authentication, signatures, and encryption)
- WS-Addressing (2003/03, 2004/03, 2004/08, 2005/03)
- WS-ReliableMessaging 1.0/1.1
- WS-Discovery 1.0 and 1.1 (except compact signature format)
- Other: users can translate WS-* protocols with the 'wsdl2h' translation tool

- Integrated HTTP 1.0/1.1 and HTTPS with OpenSSL or GNUTLS
- Cookies, compression, chunking, keep-alive
- NTLM authentication, HTTP Basic and digest authentication, MD5 checksum
- SSL/TLS encryption and certificate authentication
- SSL session caching
- Proxy support and proxy authentication

- Networking and server module support
- Standalone IPv4 and IPv6 TCP/UDP server (deamon)
- Apache 1.x and 2.0 mod_gsoap
- IIS (ISAPI) and WinInet
- CGI and FastCGI, and other server handlers via plug-ins