



SOAP Web Services Plugin for Barracuda

The gSOAP Web services development toolkit offers an XML to C/C++ language binding to ease the development of SOAP/XML Web services in C and C/C++. Most toolkits for C++ Web services adopt a SOAP-centric view and offer APIs that require the use of class libraries for SOAP-specific data structures. This often forces a user to adapt the application logic to these libraries. In contrast, gSOAP provides a transparent SOAP API through the use of proven compiler technologies. These technologies leverage strong typing to map XML schemas to C/C++ definitions. Strong typing provides a greater assurance on content validation of both WSDL schemas and SOAP/XML messages. The gSOAP compiler generates efficient XML serializers for native and user-defined C and C++ data types. As a result, SOAP/XML interoperability is achieved with a simple API relieving the user from the burden of WSDL and SOAP details, thus enabling him or her to concentrate on the application-essential logic. The compiler enables the integration of (legacy) C/C++, embedded systems, and real-time software in SOAP applications that share computational resources and information with other Web services, possibly across different platforms, language environments, and disparate organizations located behind firewalls.

gSOAP Features:

- **Unique SOAP-to-C/C++ binding:** gSOAP provides an automated mapping of native C/C++ and user-defined application data types to XML data types. Data is serialized in XML by the pre-compiled encoding routines generated by the gSOAP compiler.
- **SOAP 1.1 compliant:** supports all SOAP 1.1 features, except SOAP root.
- **SOAP 1.2 compliant:** SOAP 1.1/1.2 support is fully automated (use soapcpp2 compiler options -1 and -2).
- **WS-I Basic Profile compliance:** automatically reports potential interoperability issues before starting a new project build and before deployment (the default gSOAP setup is compliant, but please see WS-I Basic Profile Compliance Report for more details).
- **Integrated WSDL generator:** for convenient Web Service publishing.
- **WSDL parser:** for automated Web service application development.
- **XML Schema parser:** the WSDL parser can be used to parse XML schemas to generate C or C++ code for the XML serialization of schema types. The schema types are mapped to C and/or C++.
- **Efficiency:** gSOAP has a very low memory overhead and very low SOAP RPC latencies which are important properties for **embedded** and **real-time systems**.
- **Proven interoperability:** gSOAP participates in WhiteMesa's interop lab for interoperability testing.
- No need to rewrite existing C/C++ applications for Web service deployment.