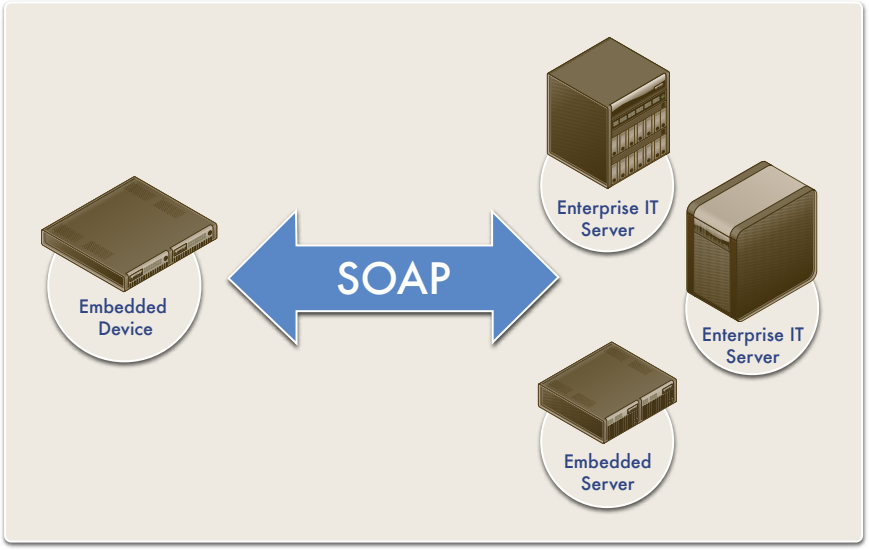
RomXOAP AE™

Advanced Edition Embedded SOAP Toolkit

RomXOAP AE Benefits

- Decrease time to market by leveraging proven SOAP software technology
- Autonomous framing of SOAP requests using application data supplied in C data structures
- Support for Header and Fault elements
- Support for SOAP 1.1 and SOAP 1.2
- SoapBuilder/TagBuilder generate framework code for server applications
- Allows asynchronous operation handlers
- Supports use of TLS/SSL with SOAP transactions
- Simple development model
- Small RAM/ROM footprint
- Highly portable via field proven abstraction layer (Hardware, RTOS, and TCP/IP stack)
- Interface files for leading RTOS vendors provided
- ANSI-C source distribution
- Compilation switches for size and speed trade-offs
- SoapBuilder Compiler simplifies SOAP parsing and framing process



Allegro's RomXOAP AE development toolkit offers design engineers a comprehensive solution for building connectivity between embedded designs and enterprise IT environments utilizing standards-based SOAP technology. Embedded devices enabled with SOAP technology are essential for enterprise IT in remote data collection, operations, industrial automation, sensor networks, and monitoring applications. Designed for use in demanding embedded environments, RomXOAP AE provides a lightweight SOAP technology without carrying the overhead of general-purpose solutions.

RomXOAP AE

When designing embedded systems, it is smart to leverage standards-based communication technology, especially when devices are deployed globally. Often, communications standards have benefited from global participation during development and enjoy an installed base already deployed in many markets around the world. SOAP holds true to this paradigm. Enterprise IT environments worldwide are implementing SOAP-based services to meet the ever-changing demands of corporations striving to compete in global markets. RomXOAP AE enables your embedded device to fully integrate in these enterprise IT environments by offering SOAP 1.1 and 1.2 compatibility.

The primary requirement for embedded SOAP technology is to efficiently translate data between SOAP messaging syntax and internal storage (typically a C structure). However, implementing general purpose SOAP technology in an embedded environment will likely prove to be impractical. Allegro's RomXOAP AE toolkit provides a lightweight translation between pre-defined C-language structures and SOAP-based messaging representations. RomXOAP AE leverages the capabilities of RomXML AE in addition to RomPager AE for serving pages or RomWebClient AE, allowing an embedded device to reach out to any server.

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Allegro

SoapBuilder Compiler

As part of the RomXOAP AE toolkit, the SoapBuilder compiler further decreases your development effort when utilizing SOAP in your embedded design. The SoapBuilder compiler takes WSDL 1.1 files as input and generates RxSchema that define your SOAP transactions. The RomXML AE TagBuilder compiler in turn uses the RxSchema to define XML objects in C-language structures used for XML-based data exchange.

Simple Development Model

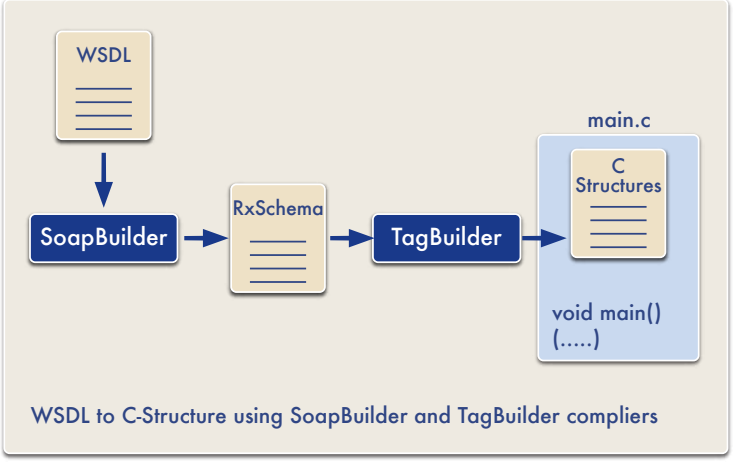
The RomXOAP AE toolkit provides a simple development model for your engineering team. The application programming interface (API) calls to control the RomXOAP AE toolkit provides a simple yet comprehensive method to construct powerful SOAP-based devices without getting involved with the complexities of SOAP implementation in an embedded environment.

Design Flexibility

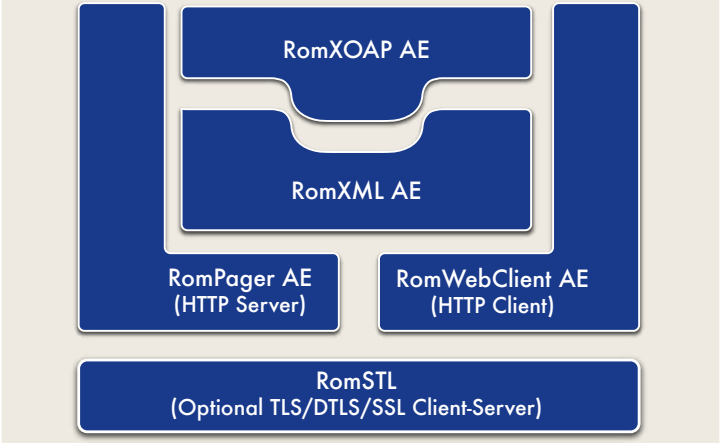
The RomXOAP AE runtime is delivered in ANSI-C, is highly portable, and offers a rich API for your development team to handle SOAP transactions. RomXOAP AE is tightly integrated with RomXML AE and can support your embedded Security concerns with complete integration to RomSTL (TLS/DTLS/SSL Client and Server).

Highly Portable

All Allegro Toolkits, including RomXOAP AE, are highly portable across RTOS and processor families. Delivered in ANSI-C source code, all products utilize a field-proven abstraction layer to enable portability with any RTOS, TCP/IP and file system environment. Interface files for leading RTOS environments are provided.



WSDL to C-Structure using SoapBuilder and TagBuilder compliers



RomXOAP relationships to other Allegro products

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