Renesas Ready Ecosystem Partner Solution
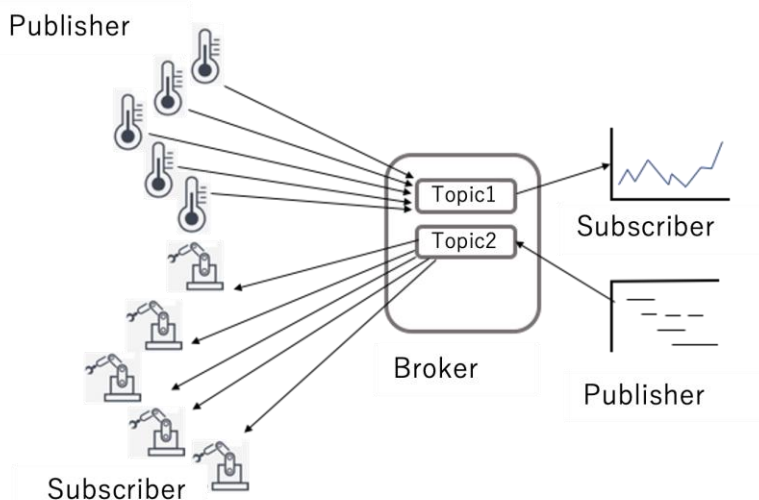# wolfSSL wolfMQTT Client Library

Solution Summary

wolfMQTT library is a client implementation of the MQTT written in C for embedded use. It supports SSL/TLS via the wolfSSL library. From this, it can provide the security that the MQTT protocol lacks. It supports all Packet Types, all Quality of Service (QoS) levels 0-2 and supports SSL/TLS using the wolfSSL library. This implementation provides support for MQTT v5.0 and is based on MQTT v3.1.1. Additionally, there is also client support for MQTT-SN (Sensor Network) wolfMQTT supports the Renesas RA family, RX family, and RZ family.

Features/Benefits

- Supports MQTT specs v3.1.1 and v5.0
- QoS Levels 0-2
- Support for TCP or TLS
- Message integrity, security are still available (via the wolfSSL library)

Diagrams/Graphics

Target Markets and Applications

- Smart Home, Energy, and Grid
- Automotive – ECUs, Telematics, and Infotainment Systems
- Industrial Automation: Controllers to Sensors
- Avionics – Engine Controllers

https://www.wolfssl.com/products/wolfmqtt/

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wolfMQTT MQTT Client Library

About Us

The wolfSSL library is a lightweight SSL/TLS library written in ANSI C and targeted for embedded, RTOS, and resource-constrained environments - primarily because of its small size, speed, and feature set. It is commonly used in standard operating environments as well because of its royalty-free pricing and excellent cross-platform support. wolfSSL supports industry standards up to the current **TLS 1.3** and **DTLS 1.3** levels, is up to *20 times smaller* than OpenSSL, and offers progressive ciphers such as ChaCha20, Curve25519, NTRU, Blake2b, and SHA-3 (Keccak). User benchmarking and feedback reports dramatically better performance when using wolfSSL over OpenSSL.

wolfSSL is powered by the wolfCrypt library. wolfCrypt is **FIPS 140-2 Level 1 validated** and is in process of **FIPS 140-3 Level 1 validation.** For additional information, visit our FIPS FAQ page or contact **fips@wolfssl.com**.

wolfSSL is built for maximum portability, and is generally very easy to compile on new platforms. If your desired platform is not listed under the supported operating environments, please contact wolfSSL.

wolfSSL supports the C programming language as a primary interface. It also supports several other host languages, including Java (wolfSSL JNI), C# (wolfSSL C#), Python (wolfSSL Python), and PHP and Perl (through a SWIG interface). If you have interest in using wolfSSL in another programming language that it does not currently support, please contact wolfSSL at **facts@wolfssl.com**

Supported Operating Environments

Win32/64, Linux, Mac OS X, Solaris, Azure RTOS (ThreadX), VxWorks, FreeBSD, NetBSD, OpenBSD, embedded Linux, Yocto Linus, OpenEmbedded, WinCE, Haiku, OpenWRT, iPhone (iOS), Android, Nintendo Wii and Gamecube through DevKitPro, QNX, MontaVista, OpenCL, NonStop, TRON/ITRON/µITRON, Micrium's µC/OS, FreeRTOS, SafeRTOS, Freescale MQX, Nucleus, TinyOS, HP/UX, ARC MQX, TI-RTOS, uTasker, embOS, INtime, Mbed, uT-Kernel, RIOT, CMSIS-RTOS, FROSTED, Green Hills INTEGRITY, Keil RTX, TOPPERS, PetaLinus, Apache Mynewt, PikeOS

Products

SSL/TLS Libraries
- **wolfSSL**

Crypto Engines
- **wolfCrypt**
- **wolfCrypt FIPS**

TPM Libraries
- **wolfTPM**

MQTT Libraries
- **wolfMQTT**

SSH Libraries
- **wolfSSH**

Secure Bootloaders
- **wolfBoot**

Data Transfer Tools
- **cURL**

Wrappers
- **wolfSSL JNI**
- **wolfCrypt JNI and JCE Provider**
- **wolfSSL C#**

Certified/Validated Products
- **wolfSSL Support for DO-178 DAL A**
- **wolfCrypt FIPS**