wolfSSL Provides Encryption for TwistM2M Platform

TwistM2M, a Microchip Authorized Design Partner, has released a Verizon Wireless certified M2M platform for code division multiple access (CDMA). The FCC certified device allows cloud connectivity through Exosite's secure cloud-based platform. This gives developers the option to enable a variety of widgets that can make use of TwistM2M's on-board sensors including accelerometers, GPS, temperature and light sensors. The M2M platform provides micro SD card support for code, event information and image storage. It also contains two expansion ports for custom sensing and connectivity development, as well as a serial communication interface that allows for simple, wired connectivity. The TwistM2M Platform is ideal for any developer looking for the ultimate Internet of Things (IoT) platform that can significantly shorten setup time.

Pre-Certified for the Verizon Wireless Network

M2M Development Platform for CDMA
(Part # DM320017)

Key Requirements

TwistM2M created their board to be a default utility for development in the Internet of Things realm. This highly customizable M2M platform requires an SSL/TLS library to provide encryption over connections used in a variety of widgets and must have the ability to switch between Ethernet and cellular connectivity, through Verizon Wireless. The optimal SSL library also needs to be lightweight and portable with the Microchip PIC32 development platform.

Solution

Finding the right SSL/TLS solution was a simple choice for TwistM2M developers. wolfSSL was designed with several key priorities including performance, feature set, low memory usage and portability. These traits allow wolfSSL to be seamlessly developed on PIC32-based devices and applications; a priority with the TwistM2M board.

"The TwistM2M development platform is the Swiss Army knife of sensors for the internet of things."

TwistM2M found the PIC32 support documentation provided on the wolfSSL website to be very thorough, containing valuable information used in porting wolfSSL to their M2M device. wolfSSL was also the best SSL/TLS solution for the TwistM2M platform in terms of size and memory usage with a low runtime RAM usage of 3 -36kB, and 20-100k disk footprint.

In addition to PIC32 support and optimal size and memory specification requirements, having an SSL library that allowed their device to alternate between cellular and Ethernet connections was a high priority for TwistM2M. In this regard, wolfSSL provided yet another benefit with its custom I/O abstraction layer.

For those needing higher control over input and output of their SSL connection, or wanting to run SSL on top of a different transport medium, the wolfSSL I/O abstraction layer provided the key to tailoring SSL I/O functionality. With this ability, TwistM2M has effortlessly designed a custom wrapper using the wolfSSL I/O abstraction layer giving the M2M device the required cellular and Ethernet capabilities.

Results

wolfSSL was the first and only SSL choice for TwistM2M. With extensive PIC32 documentation and portability, a small footprint size, and an I/O abstraction layer for dual connectivity between cellular and Ethernet, wolfSSL provided all of the essentials that TwistM2M required. The wolfSSL support team was helpful and reactive to all inquiries regarding the implementation of wolfSSL on the TwistM2M platform, which was an added benefit to wolfSSL's excellent documentation resources.

For More Information

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Solution Provided by: