

RE Partner Solution

Veridify Future-Proof Security for RE01 IoT Edge Devices



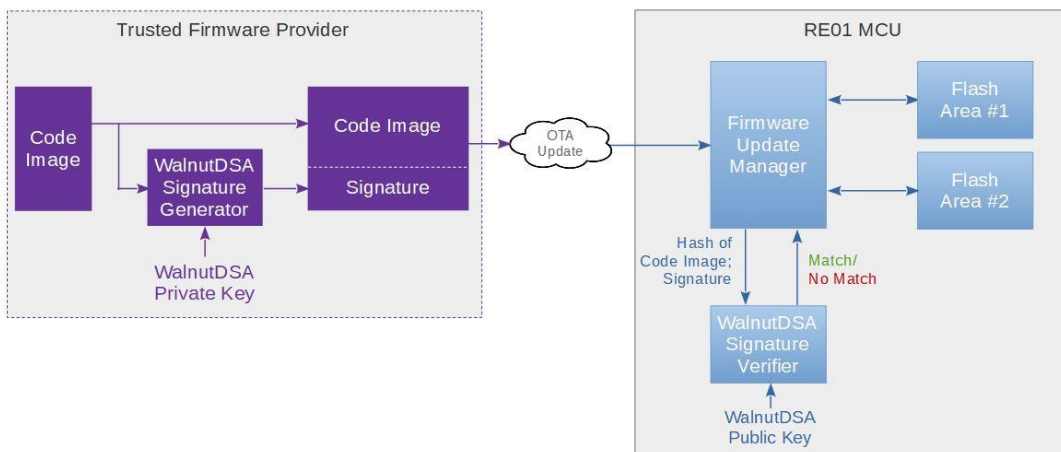
Solution Summary

Veridify Security's fast, energy-efficient [security methods](#) are ideal for protecting [RE01 devices](#) and the low resource IoT points they connect to. Veridify's [DOME™ Device Ownership Management and Enrollment™ solution](#) provides a zero-touch onboarding and ownership management platform for RE01 devices in the field without requiring a pervasive cloud or network connection. DOME provides a zero-touch solution enabling device-level security management, firmware updates, and ownership transfer that is simple, fast, and cost-effective.

Features/Benefits

- Easily implement secure boot, secure firmware update, remote authentication, and data protection in software on RE MCU family devices.
- Compact and low-energy methods are ideal for the RE series and the low resource IoT devices they connect to
- Zero-touch provisioning and device management for secure supply chain
- Quantum-resistance delivers future-proof authentication and data protection
- Available in software on RE01; reduces time and cost to market entry

Metering Use Case Example: Secure Firmware Over-the-Air Update



It is essential for in-field devices to authenticate the source of firmware updates and to ensure that the updated image has not been altered. This is accomplished by having the firmware provider digitally sign the firmware image. The image is transmitted to the target device that has already been provisioned with the firmware provider's public key. The target device uses the public key to verify the signature made over the firmware image, thereby guaranteeing source authentication and image integrity.

Target Markets and Applications

- Industrial IoT
- Embedded Medical Devices
- Remote Sensor/Monitoring
- Smart Building/Home
- Metering



Award Winning Security for IoT Designs

Veridify Security provides fast, low-energy, and quantum-resistant authentication and data protection solutions for 16- and 32-bit IoT endpoints like the Renesas RE01, RL78, RX and RA MCU families.

Security Tools Ideal for Low Resource Devices

Our security tools, [Walnut Digital Signature Algorithm™ \(WalnutDSA™\)](#) and [Ironwood Key Agreement Protocol™ \(Ironwood KAP™\)](#), enable rapid and secure authentication of meters, sensors, and other highly constrained devices.

- WalnutDSA™ - Verifies integrity and source authentication of digital data
- Ironwood KAP™ - A Diffie-Hellman-like key agreement protocol that enables two parties to generate a shared secret over an open channel without any prior communication

DOME Device Ownership Management and Enrollment™

DOME provides a comprehensive device provisioning and ownership platform that simplifies security, management, and provisioning of IoT devices in the field without needing a pervasive cloud or network connection. DOME enables a truly scalable platform that consolidates security functions and reduces costs and complexity for device owners.

Post-Quantum Ready

Quantum computers will become powerful enough to break popular security methods like ECC and RSA. Veridify's cryptography is resistant to all known quantum attacks, making your longer lifecycle solutions future-proof today.

ISO 26262 ASIL D Certified

Our software development methods conform with the strictest requirements and are Automotive Safety Integrity Level (ASIL) D certified, the highest classification for safety-critical processes.

Easily Implement Powerful Security Applications

- Authentication
- Identification
- Data Protection
- Secure Boot
- Secure Firmware Update
- Secure Supply Chain

Free Security Consultation

Our experts will provide an initial security consultation and can help accelerate time-to-market by providing fast security tools and solutions that run on the RE01. Contact us at info@veridify.com

Request a SDK

Our [IoT Embedded Security SDK](#) allows easy implementation of our solutions. The toolkit includes: WalnutDSA, Ironwood KAP, sample source code and provides support for the Renesas e2 studio.

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