Renesas Ready Ecosystem Partner Solution

IAR Embedded Security Solution

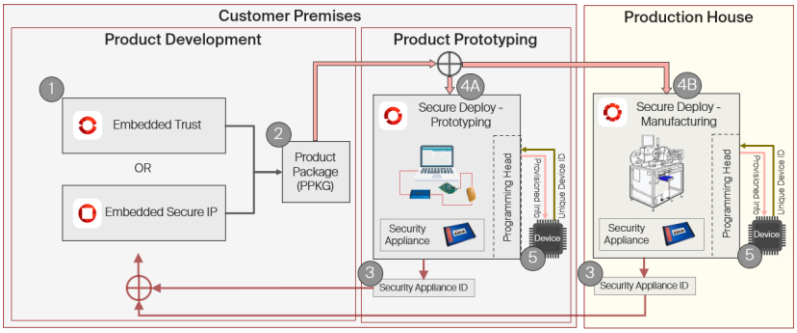
Solution Summary

IAR's security solutions makes embedded security a seamless part of your products' development process – offering a shield to safeguard the product during development, pre-production, volume production, and operational life. Support is available for the RA2L1, RA4M2, RA6M3, RX65N, RX66T, RX72M, RX72N, RX72T, and expanding to suitable RA, RX families of MCUs.

Features/Benefits

- Software and hardware tools
  - IAR Embedded Trust Professional Plus – Secure by Design Environment
  - IAR Embedded Trust Developer – Application Development and Signing
  - IAR Embedded Secure IP – Adding Security Features Anytime During Product Development
  - IAR Secure Deploy – Prototyping – A Desktop Provisioning Software
  - IAR Security Appliance – a Hardware Security Module for Securely Provisioning Devices
  - I-jet – An industry-leading high-speed in-circuit programming and debugging tool
- Training resources with topics like:
  - Developing IoT Applications with Embedded Trust
  - Introduction to IoT cryptographic and security practices
  - Managing Intellectual Property & Inhibiting Overproduction
- Custom Design
  - Creating custom security implementation

Diagrams/Graphics



Target Markets and Applications

- Medical technology and wearables
- Industrial automation
- Automotive
- Agriculture automation
- Instrumentation
- Smart metering
- Telecom / Datacom
- Consumer electronics

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Empower Your Product's Security Journey

At IAR, we make embedded security an integral part of your product's lifecycle, safeguarding it during development, pre-production, production, and operational use. Our security solutions support Renesas RA and RX microcontrollers, enabling seamless integration into your development and manufacturing processes, even if you don't use other IAR products. This allows you to focus on your core competencies without needing to be security experts. We also offer a consultative engineering approach, customizing our tools and solutions to meet specific customer needs.

IAR's security solutions address threats to embedded devices of all sizes, from simple microcontrollers to complex, multi-core systems. Designed to protect hardware, operating systems, applications, and data, our solutions ensure robust security for both connected and non-connected products.

IAR Embedded Solutions, customizing your needs:

- Provides end-to-end security solutions from security development to secure production
- Design for security officers, security developers, application developers, and production officers
- Provides late-stage security solutions to add security features during product development

IAR Embedded Solutions Offer	
IAR Embedded Trust	**Secure by Design – A Comprehensive embedded security Solutions**
▪ Authenticity	Verifies application integrity and authorized application installs
▪ Anti-rollback	Manages updates to protect against threats and comply legislation
▪ Active IPR & User Data Protection	Provides secure device access and locks applications to devices
▪ Anti-cloning	Supports unique identification, prevents counterfeits, encrypts manufacturing
▪ Secure Boot Manager	Delivered in customizable C source code for tailored security
▪ Secure Software Update	Verifies and controls application updates to prevent unauthorized installations
▪ Device Identity (X.509)	Creates a unique device context, generated for each device
▪ Cloud Device Onboarding	Guides IoT onboarding steps to verify device identity securely
▪ Application Mastering/Export	Creating secure package of encrypted software and keys
▪ Secure Transport and Production Records	Creating secure product packages of encrypted software and provisioned data with production unit control. Enables secure external access device information.
IAR Embedded Secure IP	**Late-stage Security – Hassle-free late-stage security integration**
▪ Device Identity (X.509)	Assign a unique identity to each device to ensure secure authentication
▪ Secure Data Injection & Generation	Supports injecting and generating information, e.g. device certificates, passwords and cryptographic keys
▪ Data Obfuscation & Protection	Provides secure method to protect sensitive information
▪ Anti-cloning	Establishing a strong link between software and hardware prevents counterfeiting
▪ Optimized for resource-limited MCU	Offers minimal performance overhead for memory-limited microcontrollers, efficiently supporting authentication, encryption, and protection mechanisms
▪ Production Records	Enables secure external access to device-specific information and provide verifiable logs for provisioning
IAR Secure Deploy - Prototyping	**Designs for secure transfer, production control and secure provisioning**
▪ Desktop Provisioning Software	A desktop-friendly GUI manages secure product packages and production processes.
▪ Secure Device Provisioning	Equipped with the Security Appliance, acting as a secure provisioning controller for sensitive microcontroller data.
▪ Secure Manufacturing	Verifies secure packages for manufacturing and controls production units effectively
Training for Embedded Security	Offers 2-Day onsite or online training through IAR Academy

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