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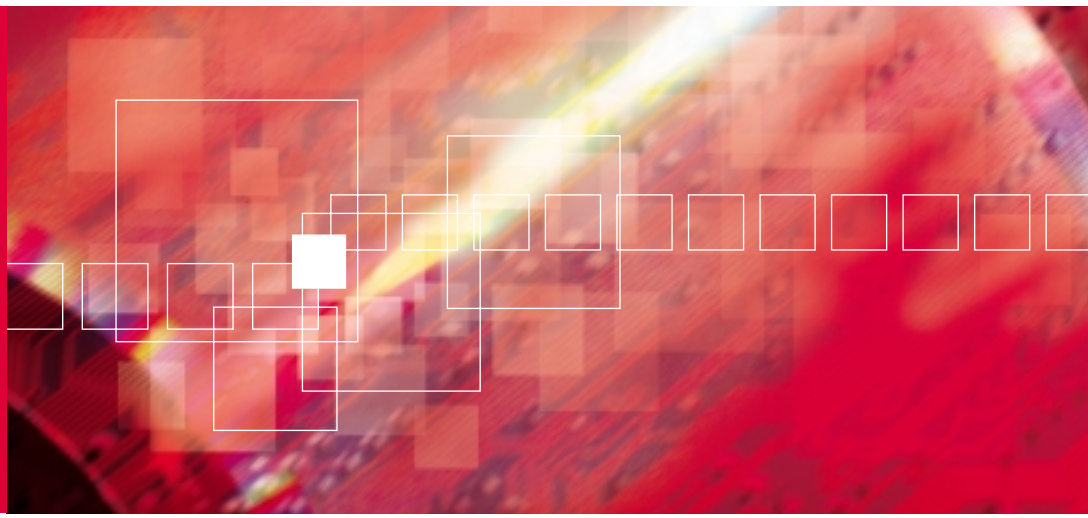
Everywhere you imagine. RENESAS

Renesas Microcomputer

ReMarkey™

Secure Authentication Microcomputer



ReMarkey Key to security

Renesas Technology
www.renesas.com

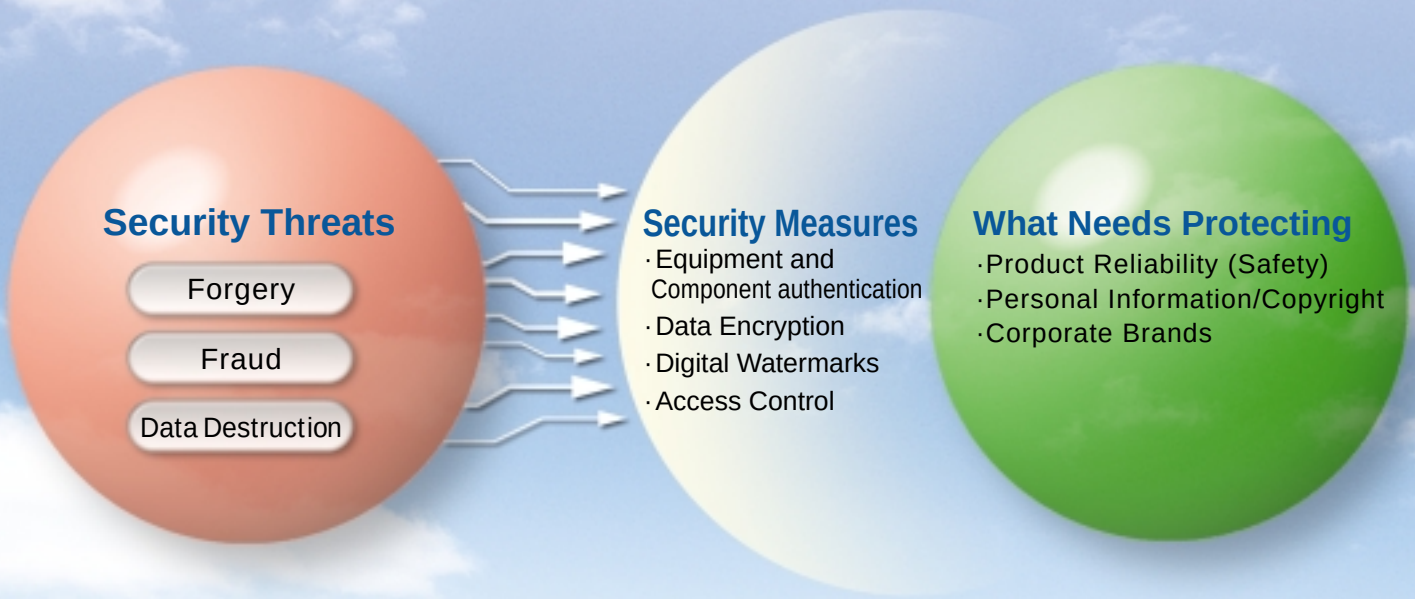
In the age of ubiquitous networking

security enhances product value and corporate brand prestige.

In the age of ubiquitous networking, **everyone** is linked **everywhere, all the time.**

In a networked society, **security threats** including forgery, fraud, and data loss are numerous and varied.

Security means limiting access to **specific persons, in specific places, at specific times.**



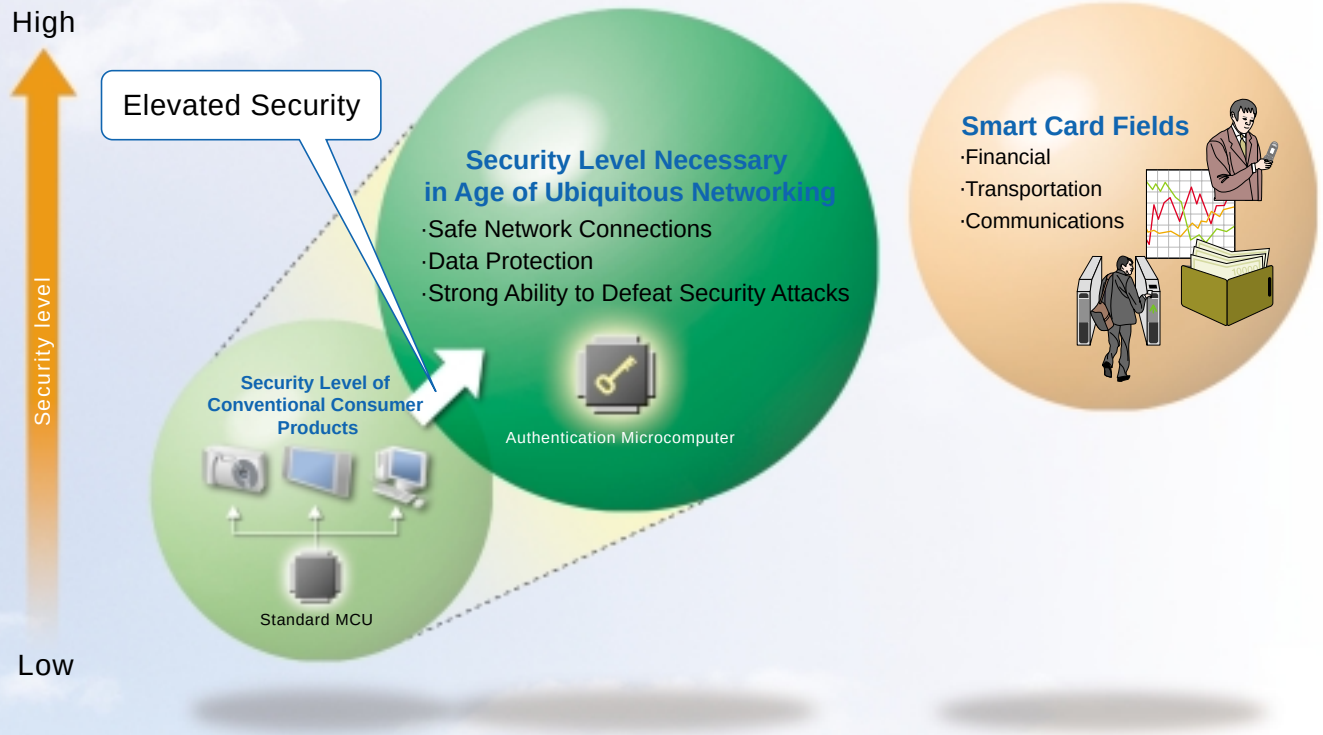
A key device for establishing corporate brand prestige

ReMarkey™

Secure Authentication Microcomputer

- Requiring authentication in order to connect makes it possible to verify the reliability of equipment and component
- Highly confidential data, such as personal information and product parameters, can be stored in encrypted form.
- Anti-tampering functions similar to those used in smart cards can be used to prevent unauthorized deciphering of data.

Authentication Microcomputer Positioning



Application Fields

Components

·Batteries
·Toner/Ink Cartridges
·Electronic Circuit Boards

Equipment

·Personal Computers/ Office Equipment
·Toys
·Home Networking Devices

Authentication Functions for an Array of Fields

Content

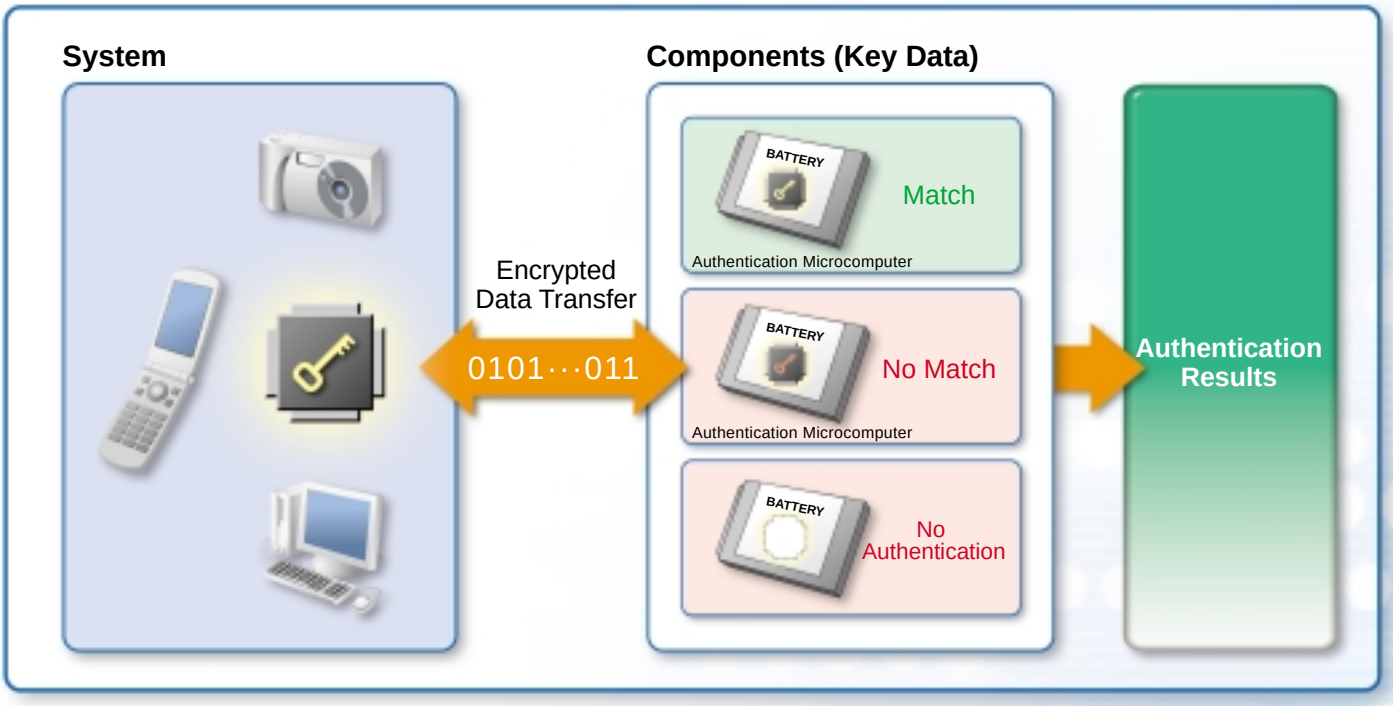
·Films/Music
·Game Software
·Books

Consumer Applications

·USB Token Key
·Entrance Locks
·Smart Keys

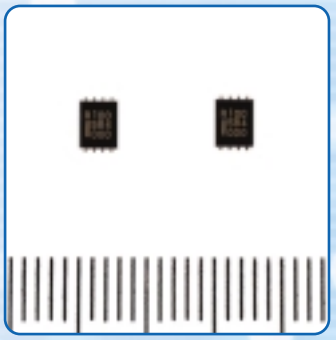
Authentication System Concept

- The built-in authentication microcomputer stores the matching key data and accurately transmits the authentication results.
- Security is enhanced by encrypting data transfers between the system and individual components.
- Unauthorized access is prevented by the strong anti-tampering function incorporated into the authentication microcomputer.



Features

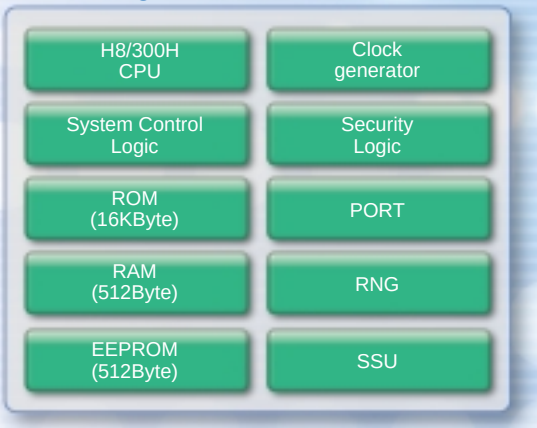
- Uses a secure communications protocol to verify the identity of devices attempting to establish a connection.
- Strong anti-tampering function prevents unauthorized access to the authentication microcomputer.
- Fast encryption processing function supports rapid data encryption and decryption.
- Built-in EEPROM non-volatile memory for storing data and programs.
- Slim security IP core for a compact package.
- A variety of encryption libraries (DES, 3DES, and MISTY public key encryption, etc.) are available.
- Support for the development of necessary software.



Product Specifications

Item	Specification
Model No.	R5H30101
CPU	H8/300H high-performance 16-bit CPU
Memory	512 B EEPROM non-volatile memory, 16KB ROM, 512B RAM
Peripheral functions	SSU, RNG, I/O ports, security
Encryption libraries	DES, 3DES, and MISTY, etc.
Power supply voltage	2.2~3.6V
Package	WSON-8 (3.00 x 4.06, 0.65 mm pitch)

Block Diagram

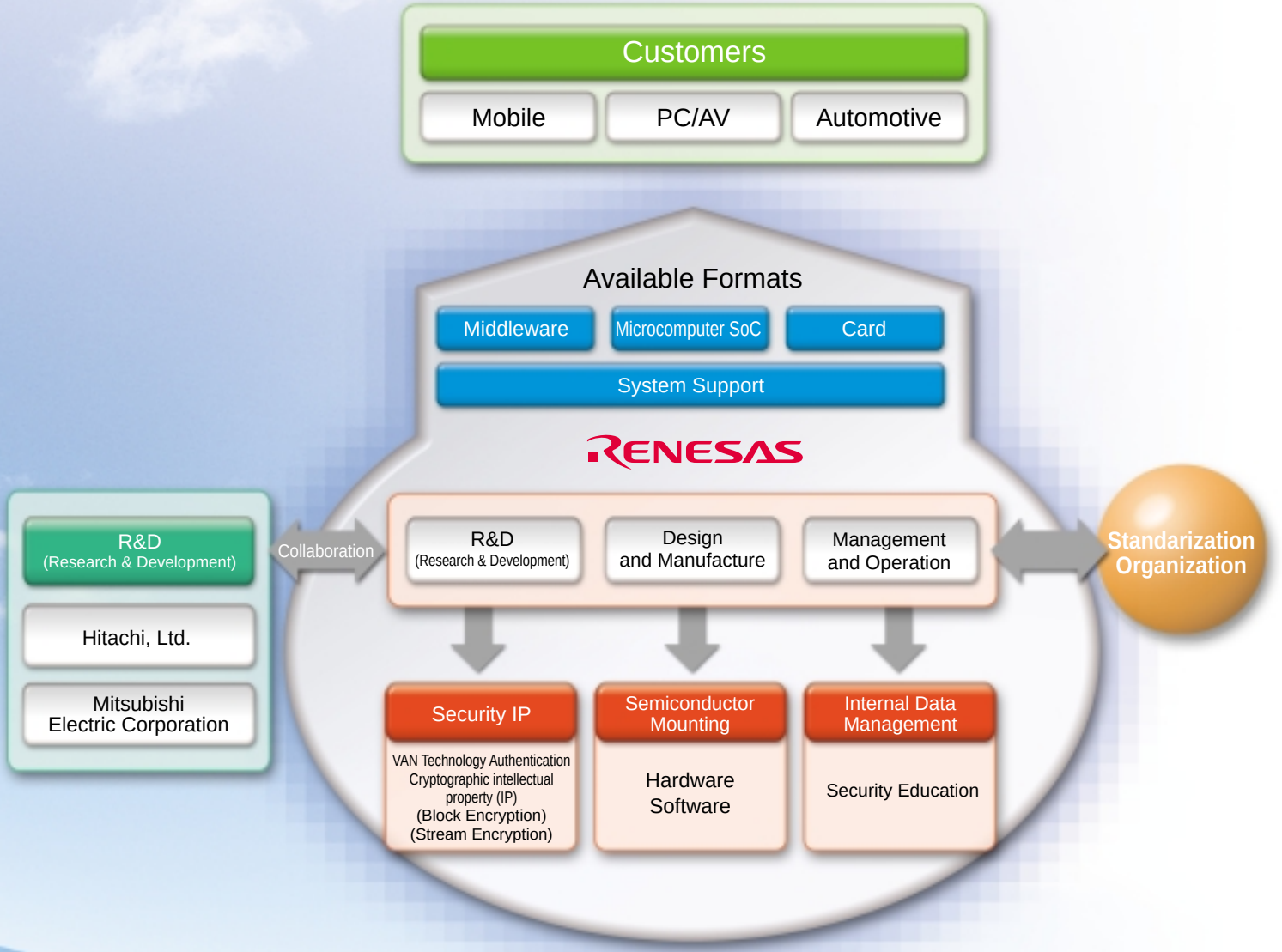


RNG:Random Number Generator
SSU:Synchronous Serial Communication Unit
EEPROM:Electrically Erasable and Programmable Read Only Memory

The semiconductor devices incorporated into a product form the core of its security.

Come to Renesas for security solutions.

- Implementation of security measures such as Cryptographic intellectual property (IP) by means of semiconductor chip devices.
- Developed in collaboration with the R&D labs of Hitachi and Mitsubishi Electric, both of which have an established track record in encryption technology.
- Renesas offers security solutions grounded in comprehensive and cutting-edge technological expertise.



R&D (Research & Development)

Renesas security solutions are developed jointly with the R&D labs of Hitachi, Ltd., and Mitsubishi Electric Corporation. With a positive emphasis on standardization and other key issues, this system supplies semiconductor security products that are internationally recognized for their excellence.

Abundant Security IPs

Renesas security solutions support world class encryption methods developed by the Hitachi and Mitsubishi Electric R&D labs, such as MISTY and KASUMI, as well as standards used in the United States, such as DES and AES. There is also support for network security IPs such as SSL, SSH, and IPsec.

Available in Many Formats

To provide flexible support for a wide range of user requirements, Renesas develops security solutions in a variety of hardware configurations, including ASIC, SoC, and microcomputer products. A line of middleware security products is also available.

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RENESAS SALES OFFICES

http://www.renesas.com

Refer to "**http://www.renesas.com/en/network**" for the latest and detailed information.

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