certicom™

Certicom Security for RFID Product Authentication™

PROVEN SECURITY FOR THE SUPPLY CHAIN AND ANTI–COUNTERFEITING PREVENTION

Certicom RFID for Product Authentication – a secure anti–counterfeiting system that employs industry standard protocols and IEEE 1363a–2004 digital signature techniques – enables product manufacturers to track and authenticate products using passive RFID tags.

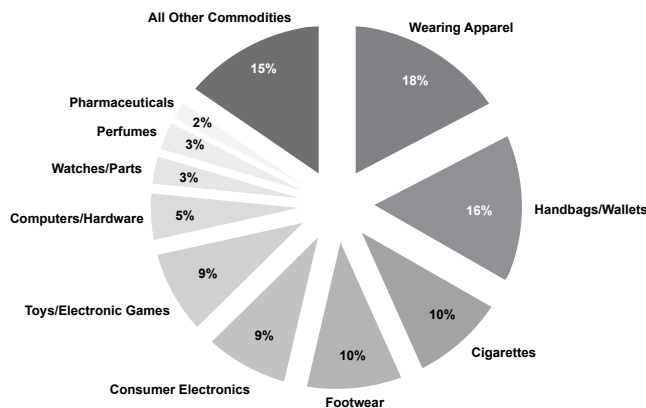### PROVEN ANTI-COUNTERFEITING.
REVENUE AND BRAND PROTECTION.

An industry-leading provider of award-winning security solutions, Certicom protects brand integrity and the manufacturer's revenue stream while protecting customer safety and privacy. This solution provides the security level and flexibility needed to protect today's supply chain. Beyond our award-winning software, the system employs FIPS-approved Hardware Security Modules (HSM) to protect sensitive keying material from theft or misuse and includes secure log files for tracking all system activity.
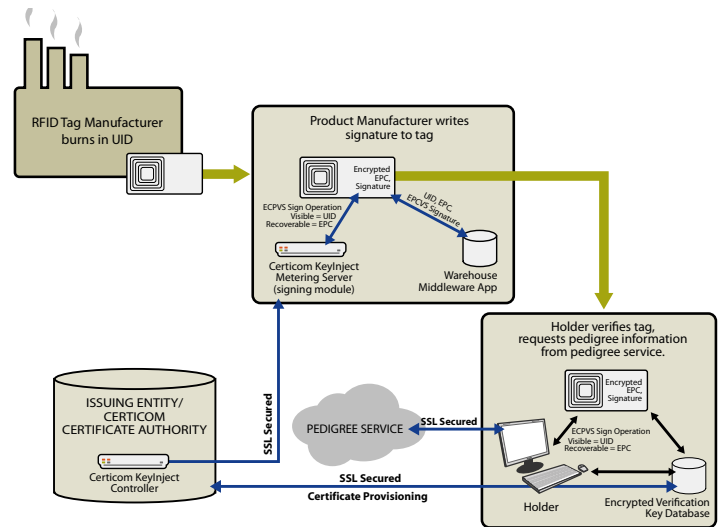
OFF–LINE PRODUCT AUTHENTICATION

Certicom RFID Authentication Agent enables end-points to authenticate products in real-time without needing an on-line database. This cost-effective approach enables you to deploy readers in environments without requiring a full-time network connection. Spot product authentication and tariff inspections can take place in remote locations using handheld readers.

ENSURING CONSUMER PRIVACY

Certicom enables producers of sensitive products to encrypt the identity of the product or other information during manufacturing. After which, only authorized readers with the correct verification key are capable of decrypting the product's identity.

Certicom Security for RFID Product Authentication Architecture

COST-EFFECTIVE, HIGH-SPEED PRODUCTION

Certicom RFID Signing Appliance automates the process of adding a unique digital signature to each passive RFID tag. Product codes and the RFID tag UID are concatenated in less than a second and then written to the RFID tag –this ensures the legitimacy of the product. This high-speed signing capability lowers the total cost of ownership in high-capacity manufacturing operations and makes item-level anti-counterfeiting feasible.

ROBUST AND CONFIGURABLE

The system's flexibility enables quick and cost-effective integration with existing business processes and warehouse management systems. In addition, Certicom RFID for Product Authentication addresses many ongoing anti-counterfeiting, gray market prevention, consumer privacy, and brand protection initiatives.

US Customs Seizure of Counterfeit Goods: $93,234, 510
Department of Homeland Security (DHS) 2005 Report
(Amount seized is only a small sub-set of total counterfeit market

Product Authentication Components Include:

- Certicom RFID Signing Appliance
- Certicom RFID Authentication Agent
- Certicom Key Management Service
- Elliptic Curve Pinstov-Vanstone (ECPVS) Cryptography

Certicom Security for RFID Product Authentication Components

Key Components Include:

Certicom RFID Signing Appliance
A robust metered signing appliance that allows integrators to track and charge clients based on signature usage. Standards based ECPVS provides a strong digital signature and product privacy with sub-second performance. The appliance and accompanying software is easily integrated into existing warehouse management systems (WMS).

Certicom RFID Authentication Agent
A highly configurable software library that can be quickly integrated into existing inventory and supply chain applications. The agent using ECPVS authenticates products throughout the supply chain and can decrypt embedded messages within the original digital signature.
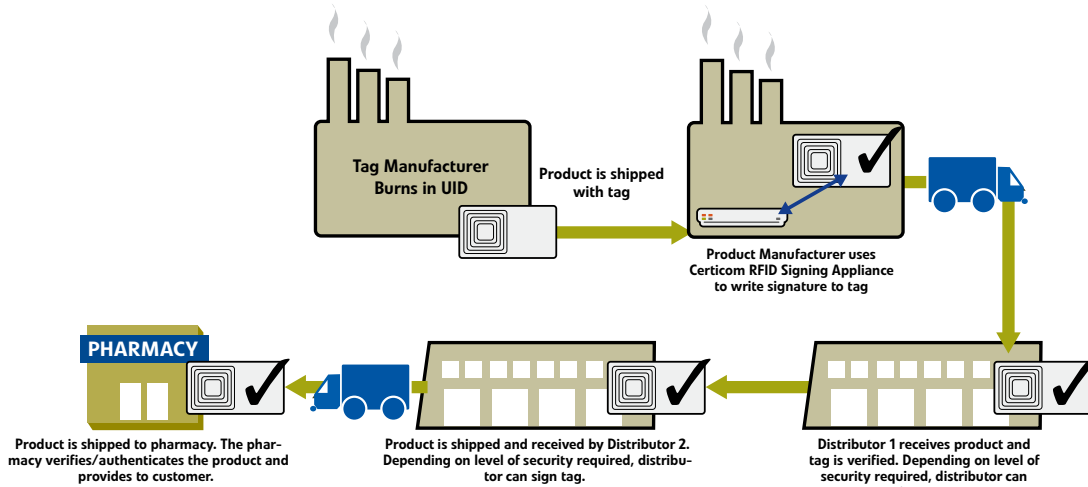
Certicom Key Management Service
An off-line Certificate Authority (CA) secures Certicom's key management and application provisioning service. Agents within the fielded readers automatically query the service for updates when they are connected to the internet. Key and software updates are downloaded to the reader using a secure channel.

Customizable Services
An experienced and dynamic professional services team that is capable of quickly integrating product authentication into your existing business processes.

Certicom Security for RFID Product Authentication in Action

Tag Manufacturer Burns in UID

Product is shipped with tag

Product Manufacturer uses Certicom RFID Signing Appliance to write signature to tag

Distributor 1 receives product and tag is verified. Depending on level of security required, distributor can sign tag.

Product is shipped and received by Distributor 2. Depending on level of security required, distributor can sign tag.

PHARMACY

Product is shipped to pharmacy. The pharmacy verifies/authenticates the product and provides to customer.

Specifications

System Requirements	• RFID tags with >256 bits of user memory • Unique tag identification number (UID) • Lockable user memory
Reader Support	Linux , Palm, Symbian, Windows, Windows Mobile, VxWorks others on request
RFID Signing Appliance	Server Class Pentium with a FIPS 140-2 Level 3 HSM 120/240V AC, 4.6 Amps 10/100 Ethernet, TCP/IP

About Certicom

Certicom protects the value of your content, applications and devices with security offerings based on Elliptic Curve Cryptography (ECC). Adopted by the National Security Agency (NSA) for classified and sensitive but unclassified government communications, ECC provides the most security per bit of any known public-key scheme. Visit www.certicom.com.

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