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Certicom Security for ZigBee Smart Energy

COMPACT, EFFICIENT SECURITY FOR LOW POWER WIRELESS MESH NETWORKS

Certicom Security for ZigBee Smart Energy is a cross-platform cryptographic module which supports the Smart Energy application security profile for ZigBee devices. Elliptic Curve Cryptography (ECC) strength and efficiency provides an enhanced level of security to resource-constrained wireless mesh networks.

COMPACT, EFFICIENT SECURITY

Certicom's ZigBee implementations of ECDSA and ECMQV offer the same highly efficient digital signature and key agreement schemes selected by the NSA, with software optimized for performance as well as minimal code footprint.

Elliptic Curve Cryptography (ECC) based Qu-Vanstone "Implicit Certificates" bring strong security to the resource-constrained ZigBee environment without the overhead of bulky X.509 certificates. Implicit digital certificates allow metering companies to take advantage of mass-produced ZigBee Smart Metering devices with built-in cryptographic identities.

ECMQV and ECDSA can be utilized in a variety of resource constrained applications which may benefit from mutual authentication yet resource constraints prohibit the use of ordinary PKI technology.

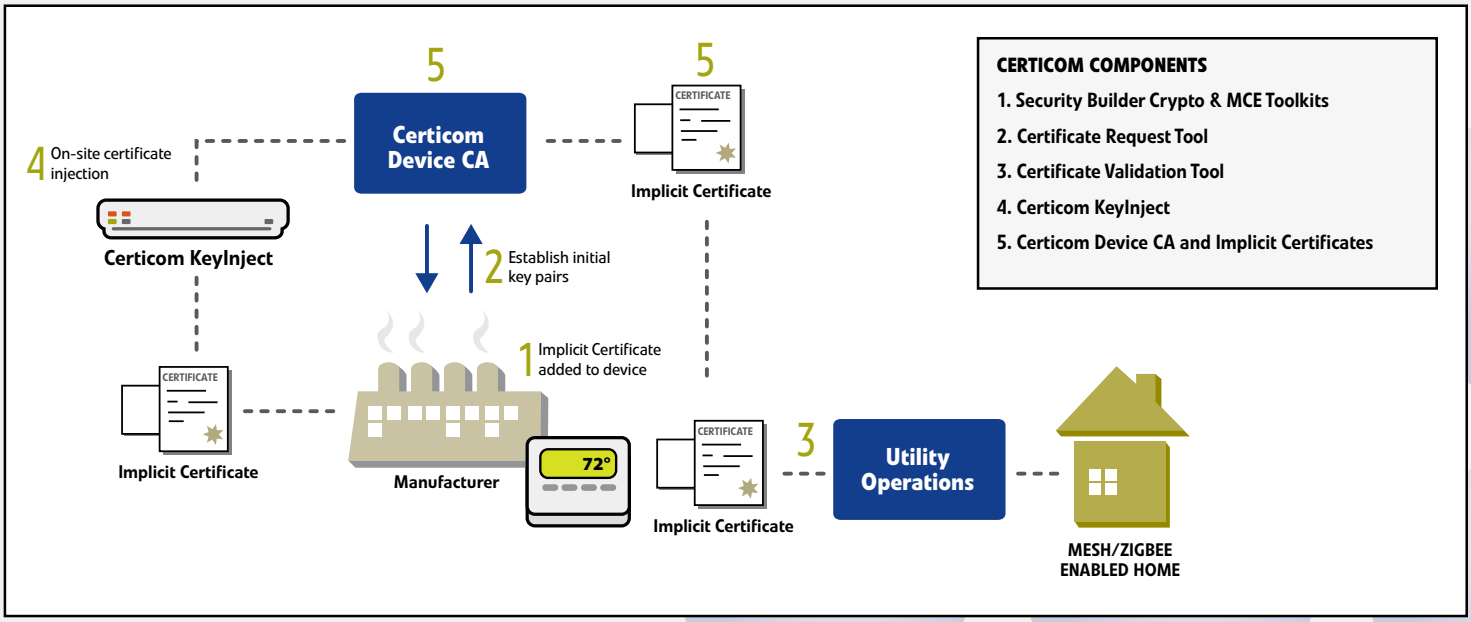
SMALLER AND FASTER

Optimized for constrained platforms, the ZigBee suite of algorithms can be implemented in as little code space as 10 K of ROM. Working with Certicom professional services implementations can be quickly tuned to support a wide variety of (RAM, ROM and stack) configurations. The ECC enabled implementations are ideal for residential and commercial energy management systems that are low bandwidth and require maximum battery life.

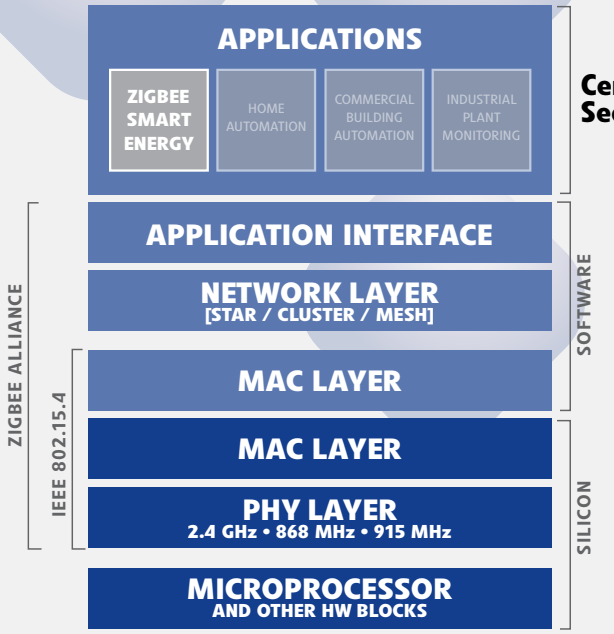
CERTICOM SOLUTION

The solution to the key distribution problem for ad hoc wireless sensor networks is a Public Key Infrastructure using Elliptic Curve Cryptography (ECC) based Implicit Certificates. Implicit Certificates bring strong security to the resource-constrained ZigBee environment. Requiring all devices to be authenticated with digital certificates allows metering companies to take advantage of mass-produced ZigBee Smart Metering devices with built-in strong cryptographic identities.

Features



Environment	**8 and 16-bit**
Programming Language	**C**
Hash Functions	**AES-MMO**
Asymmetric Encryption	**-**
Key Agreement/ Key Transport	**ECMQV**
Digital Signatures	**ECDSA**
Implicit Certificate handling	**ECQV**
Implementations:	
Code Size Range	**10 – 20 K**
Code Ram Usage	**<1 K**
Platform Support	**8051**
	Arm 7/ARM 9
	EM250 and EM260
	Linux x86
	MSP 430
	Windows x86
	M16C



Security Builder MCE for Zigbee Smart Energy

About Certicom

Founded in 1985 with a long-term focus on Elliptic Curve Cryptography, Certicom has been awarded over 500 patents. As a leader in applied cryptography and key management, Certicom provides managed PKI, key management and provisioning technology that helps to protect customers' device firmware, applications, and long-lived assets. Certicom is a critical element of the Blackberry cybersecurity portfolio deploying the first and best in class end-to-end security solutions used in preventing product counterfeiting, re-manufacturing, and rogue network access. Blackberry Certicom's secure key provisioning, code signing and identity management solutions are field-proven to protect next-generation connected cars, critical infrastructure and IoT deployments.

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