



NanoUpdate™

Mocana's easy to use, high performance
Secure Firmware/Software Update solution

Features & Benefits

Significantly enhances security and lowers support costs.

Extends device lifetime out in the field

Creates new revenue opportunities for already-deployed hardware

Open-standards based, RFC compliant

Full featured, flexible architecture

Disruptable, asynchronous architecture

Code reuse for smaller memory footprint

RTOS neutral and transport agnostic

Free evaluation at
www.mocana.com/evaluate.html



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Device firmware is a lot like an operating system, permanently resident in hardware, that controls the most basic functions of that device. Today, virtually all hardware devices use firmware of one sort or another, from expansion cards, USB adaptors, switches, routers, printers, storage drives, digital cameras, mobile phones and more.

Where once firmware was read-only and fixed, today most firmware can be dynamically updated, giving "old" hardware new features and capabilities. For years, code updates and patches have been automatically delivered and installed on millions of Macs and PCs. But most network-attached devices — if they can be updated at all — still require manual updating, a process that is time consuming, tedious and can actually introduce new security problems into the network.

Introducing NanoUpdate

Mocana's NanoUpdate is an easy to use, high performance secure firmware update solution. Mocana NanoUpdate enables firmware images and other messages to be securely delivered to devices in the field automatically, eliminating the need for insecure manual methods, like email, TFTP, FTP, HTTP, or physical DVDs.

NanoUpdate's command line tool can create a PKCS #7 - digitally signed message. The signed message is placed at a well known URL, which is programmed to check for updates. The signed message is then downloaded, authenticated, verified, de-capsulated, saved and/or acted upon.

Mocana NanoUpdate can be used over sporadic or "lossy" connections. Any signed message (update) downloads that are disrupted during retrieval will cleanly resume without consequence.

Mocana NanoUpdate can be used for both wired and wireless mobile applications, over local or remote networks. Deployment of new firmware images with Mocana NanoUpdate is simple, secure and easy to manage.



NanoUpdate™ Features

Platform Independent

NanoUpdate, like all of Mocana's device security toolkits, is endian-neutral, CPU-architecture and platform independent. NanoUpdate is immediately available for over 100 processor/OS combinations, and ports to new platforms can typically be completed in 2 hours. Platforms supported out-of-the-box include Linux, Monta Vista Linux, VxWorks, OSE, Nucleus, Solaris, ThreadX, Windows, MacOS X, (ARC) MQX, pSOS, and Cygwin. NanoSSH is endian-neutral, and can be used without an RTOS if required.

No Crypto Expertise Required

NanoUpdate features an extremely powerful, but simple and easy-to-use API. That's because we built it for ease-of-use and ease of installation from the ground up. You don't need to be a crypto expert, because we hide all of the complexity of the cryptography. You can focus on your development project, and let us worry about the security. Plus Mocana's developer support team is always available to answer your questions about security, our toolkits, or embedded development in general.

Easy To Install and Use

NanoUpdate includes an exclusive command line tool for signing firmware images and messages. It's API was purpose-built for device environments, with simplicity and ease-of-use designed in from the start.

NanoUpdate™ Benefits

Dramatically Speeds Your Development Cycle

NanoUpdate is a ready-made, pre-optimized and exhaustively tested solution that frees your in-house development resources to focus on what's really important: the functionality of your project. Our advanced, well-documented APIs speed development & integration efforts and significantly ease customization. NanoUpdate allows you to develop proprietary systems while giving you the freedom to substitute in the commercially-available components you choose. As always, Mocana's developer support team is at your disposal to assist with any software or security questions you might have.

Extends Product Lifecycle

Because you can now deliver new features and functionality in software, your hardware platforms can enjoy a significantly longer lifetime out in the field. Significant code updates can create new revenue opportunities, too, without the need to redeploy expensive new hardware.

Greatly Improves Security, Lowers Support Costs

Security patches can be delivered remotely, automatically — no more wondering which devices have which version of the software. Fast, inventory-wide security updates mean your product line is significantly less vulnerable to zero-day attacks.

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Mocana's Device Security Framework™

NanoUpdate is part of the Mocana Device Security Framework™, designed to secure all aspects of any connected device. All components of the Device Security Framework are built on a common architecture and share a common API and code base. As a device designer, you can choose only the components you need for your particular project... or standardize company-wide on the DSF, future-proofing your investment with this broad, cross platform, flexible and extensible security architecture.

Other Mocana Solutions

NanoDefender™
Secure booting, updating and antivirus system for devices.

NanoSSH™
Device-optimized SSH client and server with RADIUS support and certificate management.

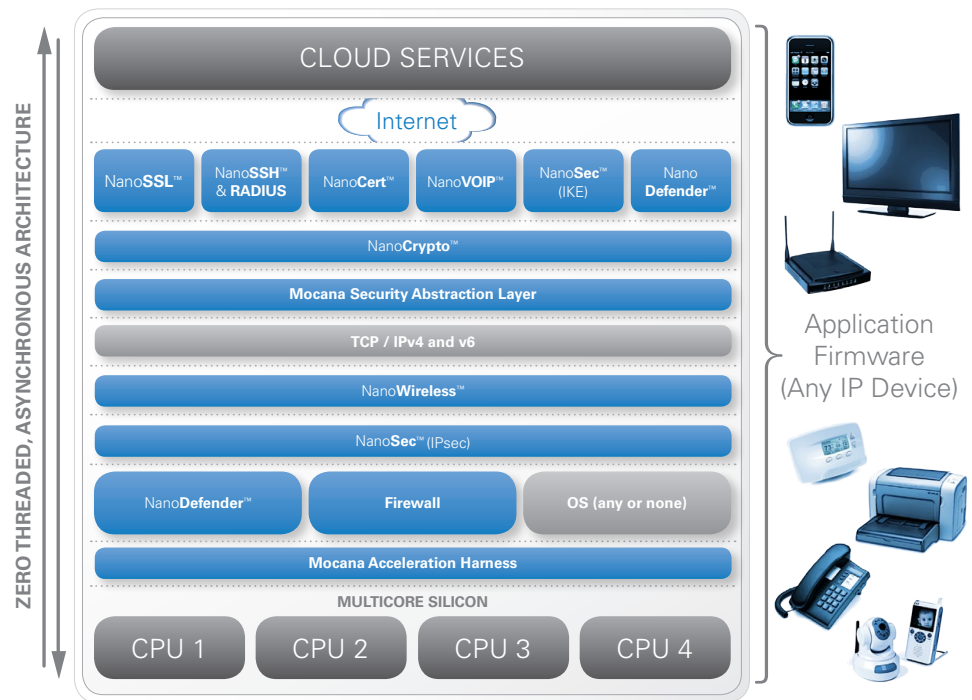
NanoSec™
Device-optimized IPsec, IKEv1/v2 and MOBIKE, with integrated firewall and certificate management capabilities.

NanoVOIP™
Complete solution for VOIP builders, including device-optimized SRTP, DTLS, Firewall and certificate management technologies.

NanoSSL™
Superfast, super-small SSL client and server with Suite B support.

NanoCrypto™
Small, fast and extra-flexible cryptographic engine with Suite B, AES, RSA and Elliptic Curve support. Available as a FIPS-certified binary.

NanoCert™
Robust certificate issuing, validating, revocation and management engine, purpose-built for devices.



About Mocana

Mocana secures the "Internet of Things": the ubiquitous devices of our lives, our infrastructure and the enterprise networks to which they connect. Mocana provides device integrity solutions and embedded security tools for consumer electronics manufacturers, datacom companies, telecom carriers, industrial automation applications and the enterprise. Mocana's industry-leading infrastructure software solutions ensure that devices, networks and their services all scale securely. The company sells a broad portfolio product offerings and customers include Cisco, General Electric, Freescale, Philips, Dell, Nortel Networks, Honeywell and Aruba, among others. Mocana was founded in 2002, is privately held, and headquartered in San Francisco. The company was recently named one of Red Herring's "Top 100 Privately-Held Companies" globally for 2008 and also won Frost & Sullivan's "Technology Innovation of the Year" award.

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Awards and Certifications

