

QUICK REFERENCE GUIDE

Embedded Software Monetization at a Glance

Embedded device manufacturers today are undergoing a transformation from shipping devices to selling the value contained in embedded software. This shift toward leveraging software-based intellectual property enables more flexible pricing in an increasingly commoditized and competitive market. In addition to the revenue-generating opportunities this presents for intelligent hardware vendors, the trend also poses a number of risks. Intellectual property, for example, is vulnerable to piracy, illegal use, gray market trade, reverse engineering, theft, and tampering. Such threats can cause irreparable damage to a company’s brand, its ability to compete, its revenue, and the customer experience. However, vendors can mitigate these risks by deploying software monetization technology as part of a forward-thinking profit strategy. With the right implementation, software monetization can increase sales, reduce costs, boost competitive advantage, and enhance market reach.

Customer Business Challenges

1 The high cost associated with inventory, support, and shipping for a wide variety of hardware SKUs for each product line.

2 Competitive espionage resulting in the theft of trade secrets.

3 IP theft resulting in unauthorized reproduction and distribution of 'knock-off' products.

4 Malicious or unintentional device tampering resulting in altered functionality and regulatory non-compliance.

5 Inflexible feature management techniques resulting in limited market penetration capabilities.

6 Laborious upgrade and renewal processes resulting in high support costs and a poor customer experience.

The Solution

To achieve success in the rapidly evolving hardware industry, device manufacturers need to focus on the control and monetization of embedded software. Software protection and licensing mechanisms protect applications from unauthorized access, and enable product configuration and management processes for increased efficiency.

With embedded software monetization, intelligent device manufacturers are able to:

 **Protect Intellectual Property:** Safeguard products from illegal copying, reverse engineering, and code tampering.

 **Increase Revenue Streams:** Create a software-centric offering with flexible packaging to generate new revenue streams.

 **Control Operational Costs:** Ensure product availability, control inventory, and reduce manufacturing and certification costs.

 **Improve Customer Experience:** Create an intuitive and consistent user experience across all stages of the product fulfillment cycle.

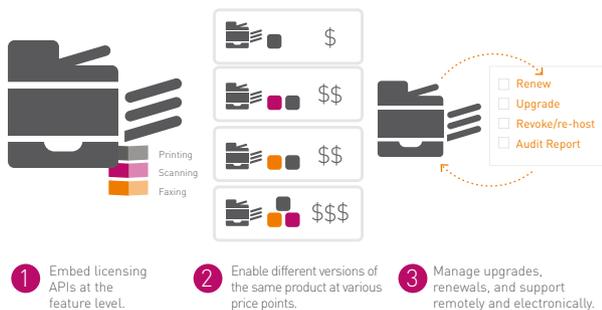
A successful shift to software-centric business models is heavily reliant on mature software licensing and policy management components to ensure a seamless user experience and scalable business operations. Vendors of proven, secure, and scalable software licensing and entitlement management solutions, such as Gemalto, are key enablers of this new generation of software-powered intelligent devices.

-Avni Rambhia, Digital Media Industry Manager, Frost & Sullivan.

How it works:

Licensing solutions provide feature-level control of the device software. Feature-level control reduces operational costs, creates a wider range of business models, and simplifies or automates sales and support tasks such as upgrades and renewals. The same technology that controls access to features can be leveraged to report on product and feature usage. This data can be used to fuel usage-based business models or generate invaluable business intelligence. Licensing can be enhanced with entitlement management capabilities to streamline many of the manual processes associated with customer lifecycle management. Processes such as product activation, ongoing use, and upgrade management can easily be automated, further reducing operating costs and improving the customer experience.

Feature-level packaging, control, and management in action:



Why Sentinel:

Gemalto Sentinel software monetization solutions protect and manage the software embedded in any piece of hardware – from networking appliances and medical devices to mobile handsets and industrial automation equipment. The reduced footprint and efficient memory usage of our solutions ensure that they conform to the strictest environmental constraints without compromising on performance.

> **Sentinel RMS Embedded**—Ideal for customers with software-based licensing, this highly portable version of Sentinel RMS is designed specifically to meet the needs of memory-constrained embedded environments. The solution already supports a wide range of platforms including VxWorks, Linux ARM, Linux x86, and Android, as well as derivative and non-standard platforms. Multi-environment or existing RMS customers can expect a common development experience..

> **Sentinel LDK Embedded**—For device manufacturers and software vendors selling to the embedded market, we offer a highly portable version of Sentinel LDK that provides token-based license enforcement. Sentinel LDK encrypts and stores license data within the memory of the hardware key, and is portable enough to quickly transfer licenses to new or replacement devices. Both Linux ARM and Android platforms are supported.

The newest addition to the Sentinel family, **Sentinel Fit**, is also the smallest commercially-available secure licensing solution on the market. Sentinel Fit delivers award-winning software protection features combined with sophisticated, web-based entitlement management capabilities, all in an ultra-small footprint. Designed for embedded systems, Sentinel Fit supports virtually all boards and microcontrollers and is free from CPU and operating system constraints.

Gemalto Sentinel delivers a range of innovative solutions for packaging products and managing the customer lifecycle. Our solutions protect products from unauthorized use, tampering, and reverse engineering. Some of the largest and most trusted equipment manufacturers in the world rely on Gemalto for:

- > **Award-Winning Security**—Implement license enforcement and IP protection technology to ensure device and brand integrity, mitigate reverse engineering, and safeguard revenue.
- > **Product Configuration Management**—Generate multiple pricing and packaging options from one primary code build to reduce inventory costs and streamline operational processes.
- > **Flexible Business Models**—Enable equipment manufacturers to meet the packaging demands of every customer with a wide variety of flexible licensing models and enforcement mechanisms.
- > **Remote Feature Management**—Upgrade software and control feature-level access remotely to simplify the entire customer lifecycle management process.
- > **Centralized Management and Process Automation**—Centralize and automate product activation, usage tracking, and ongoing end-user entitlement management with the integration of Sentinel EMS.
- > **High Portability**—Enjoy out-of-the-box support for a broad variety of platforms and operating systems, and a design that supports quick and easy custom porting.

About Gemalto's Sentinel Software Monetization Solutions

Gemalto, through its acquisition of SafeNet, is the market-leading provider of software licensing and entitlement management solutions for on-premises, embedded, and cloud-based software vendors. Gemalto's Sentinel is the most trusted brand in the software industry for secure, flexible, and future-proof software monetization solutions.

Contact Us: For all office locations and contact information, please visit www.gemalto.com/software-monetization

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