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Migrating to

Sentinel Hardware Keys™



***The Most Secure Hardware Token
in the World!***



Advanced hardware protection against piracy



High-level and simplified implementations



Long-term solution for protecting your revenue

Introduction

The technical advancements of the last decade have benefited both software developers and pirates. The continually evolving technology has armed the latter with sophisticated tools and techniques to break through the legacy protection systems. Adding to this are fierce marketing and ROI pressures that induce software publishers and vendors to deliver competitive products with trouble-free licensing.

Sentinel has been the market leader in hardware-based protection since 1984. More than 35 million applications worldwide are protected by Sentinel SuperPro™ and Sentinel UltraPro™ hardware keys. Sentinel Hardware Keys, the latest offering, provide an advanced set of security and licensing features to ensure against the ever-looming threat of piracy. The keys make use of industry-standard cryptographic techniques, like Elliptic Curve Public Key Cryptography (ECC) and 128-bit AES algorithms, to provide the most-advanced anti-piracy protection. In addition, they provide new and improved software tools for easier implementation and deployment.



About Sentinel Hardware Keys

Below are some of the many features of Sentinel Hardware Keys that make them the most reliable and secure solution for protecting your intellectual property:

- ▶ Contains Elliptic Curve Public Key Cryptography (ECC) algorithm for digital signing/verification
- ▶ Has 128-bit AES algorithm for data encryption/decryption
- ▶ Provides secure communication through a *tunnel*—an end-to-end session between the client and the Sentinel Key—secured using AES and ECC
- ▶ *State-of-the-art* hardware for reliable performance
- ▶ Role-enforcement through tokens for developers, distributors, and their customers
- ▶ Great feature additions in Shell
- ▶ High-level API protection for quick and effortless implementations

See http://www.safenet-inc.com/products/sentinel/hardware_keys.asp for feature summary.

About This Document

This document describes the suggested migration path for Sentinel SuperPro and UltraPro developers to the much-advanced Sentinel Hardware Keys. It is divided into two sequential stages—offering easy upgrades for you and your customers.



Stage 1 - Distribute Sentinel Dual Hardware Keys

In Stage 1, you will be creating a customer-base for Sentinel Hardware Keys by distributing Sentinel Dual Hardware Keys instead of SuperPro or UltraPro. These keys have support for your current protection scheme (SuperPro or UltraPro) and enable seamless migration to your future protection scheme (Sentinel Hardware Keys).

All you need to do is:

1. Order Sentinel Dual Hardware Keys (instead of Sentinel SuperPro or UltraPro Keys) through your Sentinel sales representative. You need to be aware of the following:
 - ▶ Sentinel Dual Hardware Keys are available in USB form factor only
 - ▶ Sentinel Dual Hardware Keys are available for stand-alone and network versions
 - ▶ Sentinel Dual Hardware Keys have 256 cells of memory for use by your SuperPro or UltraPro implementation so you will receive a new model number with your kit
2. Program Sentinel Dual Hardware Keys with the same protection strategy you prepared for SuperPro or UltraPro Keys.

SuperPro developers can straightaway program Sentinel Dual Hardware Keys with the protection strategy they prepared for SuperPro Keys. However, Sentinel UltraPro developers need to make a small modification (described below) before they program the design into Dual Keys. Note that in stage 1 you need not do any modifications in the application code or API implementation:

- i. In the **Protection Manager** screen, select the project from the drop-down list that has your design.
 - ii. Select the design in the **Designs** list and note down its design ID (shown in top-middle of the **Protection Manager** screen).
 - iii. Click the **Duplicate**  button shown next to the **Designs** panel. The **Duplicate Design** dialog box appears.
 - iv. Modify the design name, as two designs with same name cannot co-exist in a project.
 - v. Click **OK**.
 - vi. Select the duplicated design and right-click to open a short-cut menu.
 - vii. Select the option to view design properties. The **Design Properties** dialog box appears.
 - viii. Modify the design ID of the duplicated design same as the existing design.
 - ix. Click **OK**.
 - x. Attach the Sentinel Dual Hardware Key to a USB port/hub on your system.
 - xi. Click the **Build**  button to prototype the duplicated design.
3. Distribute the latest Sentinel System Driver with your protected application to support Sentinel Dual Hardware Keys. You may allow the driver to be downloaded from your Website. A copy can be downloaded from SafeNet Website (<http://www.safenet-inc.com/support/tech/sentinel.asp>).

Stage 2 - Design New Protection Strategy

In stage 2, you will be implementing a new protection strategy using the Sentinel Keys Toolkit. This can ideally be done for the upcoming releases of your software. You need to:

1. Order the Sentinel Hardware Keys development kit through your Sentinel sales representative.
2. After installation, use the Sentinel Keys Toolkit to implement superior Shell and/or high-level Business Layer API protection—including AES-based encryption/decryption and ECC-based signing/verification.

Note: You will NOT be able to import/re-use your legacy API or Shell SuperPro or UltraPro code base (prepared using Sentinel SuperPro or UltraPro kits) in the Sentinel Keys Toolkit. Since the Sentinel Hardware Keys use the latest security technologies, you will need to implement your new, highly secure protection strategy from scratch. Refer to the *Sentinel Keys Developer's Guide* for details on using the Sentinel Keys Toolkit.

- ▶ **Existing (Stage 1) Customers Who Want to Upgrade** – You can upgrade the existing customers to the latest version of your software remotely, without shipping new hardware keys. The Sentinel Dual Hardware Keys can function as Sentinel Hardware Keys to support your latest software release. You will need to ship them:
 - New application installer and any associated redistributables
 - Upgrade license code (*.upw* file)¹. After this license code is applied (using Secure Update utility or any other custom action), the Dual key will support Sentinel Hardware Keys-dependent applications.
- ▶ **New Customers Who Do Not Have Sentinel Dual Hardware Keys** – You can program Sentinel Hardware Keys for customers who are buying your software for the first-time. You will need to ship them:
 - New application installer and any associated redistributables
 - Sentinel Hardware Key

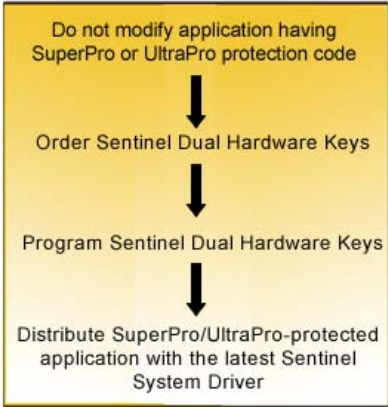
Note: The license code can be configured to continue/discontinue the support of SuperPro or UltraPro-dependent applications that were using the same key. Hence, the protection for the older versions can remain, if desired. The Sentinel Dual Hardware Key can simultaneously support both the Sentinel Keys-protected applications and SuperPro or UltraPro-protected applications.

¹ The upgrade licenses can be generated using a higher version of Sentinel Keys Toolkit (to be released later in this year).

Licensing Roadmap for Your Application



Customers who are buying
current versions of your software



Stage 1



Customers who will be buying future
versions of your software

Implement new protection strategy
using Sentinel Keys Toolkit.
Your latest application/code needs
to be changed for new protection



Existing Customers (upgrading from stage 1)

If they want to upgrade to
the latest release of your protected
software, you can provide seamless
upgrades through remote updates.
This feature will be available with
the subsequent release of
Sentinel Hardware Keys SDK

New Customers (buying your app for the first time)

Order Sentinel Hardware Keys



Program Sentinel Hardware Keys



Distribute Sentinel Hardware Keys
along with required redistributables
(see *Sentinel Keys Developer's
Guide*)

Stage 2

Frequently Asked Questions

1. Are Sentinel Dual Hardware Keys different from Sentinel Hardware Keys?

Sentinel Dual Hardware Keys have the same capabilities as Sentinel Hardware Keys (described on page 3) *except* that they can also support SuperPro or UltraPro protection systems.

2. From where can I obtain the latest Sentinel System Driver?

The Sentinel System Driver is available as a part of the Sentinel Protection Installer, which can be downloaded from SafeNet Website (<http://www.safenet-inc.com/support/tech/sentinel.asp>). It consists of the following folders and files:

File/Folder	Description
\root	Contains the Sentinel Protection Installer setup program, .cab, .msi, and readme files
\server	Contains Sentinel Protection Server (legacy) files for Novell platforms
\Merge Modules	Contains the merge modules for Sentinel Protection Server, USB and parallel port driver.
\Internet Installer	Contains a setup program for your customers. This will install/upgrade Sentinel System Driver (USB and parallel port) and Sentinel Protection Server on your customer's system.
\help	Contains HTML Help (.chm) for developers. Note the readme file in the \root directory is for your customers.

3. Can I distribute the latest Sentinel System Driver (version 7.3.0 and higher) to customers using SuperPro/UltraPro Keys in parallel port form factor?

Yes. The Sentinel System Driver is backward-compatible.

4. During stage 2, how can the hardware keys already in the field be updated?

Using the higher version Sentinel Hardware Keys SDK (to be released later this year), you will be able to generate license codes for the protection strategy you will create in stage 2. These license codes can be applied universally to the Sentinel Dual Hardware Keys distributed in stage 1.

Contacting Technical Support

We are committed to supporting Sentinel Hardware Keys. If you have questions, need additional assistance, or encounter a problem, please contact Technical Support:

Customer Connection Center (C3)	
http://c3.safenet-inc.com	
Online support system to get quick answers for your queries. It also provides you direct access to SafeNet's knowledge base.	
Sentinel integration Center (C3)	
http://www.safenet-inc.com/support/ic/iclogin.asp	
This area provides the information you need to successfully integrate our Sentinel Products with your Solutions.	
Americas	
Internet	http://www.safenet-inc.com/support/index.asp
E-mail	support@safenet-inc.com
United States	
Telephone	(800) 545-6608, (410) 931-7520
Europe	
E-mail	support@safenet-inc.com
France	
Telephone	0825 341000
Germany	
Telephone	01803 7246269
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