

Sentinel[®]LDK

Sentinel LDK v.6.4
Release Notes



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Confidential Information

Sentinel LDK is designed to protect your applications from unauthorized use. The less information that unauthorized people have regarding your security system, the greater your protection. It is in your best interest to protect the information herein from access by unauthorized individuals .

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Sentinel LDK v.6.4 - Release Notes

About This Document

This document contains information about the latest release of the Sentinel LDK product, including new features, changes to the product, documentation, and known issues and workarounds.



These release notes are subject to change. If you are reading the release notes that were installed with the product, SafeNet recommends that you check the release notes available from the Sentinel Community web site to see if any information was added or changed. You can access the latest release notes from this location: <http://sentinelcustomer.safenet-inc.com/sentineldownloads/>

Product Overview

Sentinel LDK (*Sentinel License Development Kit*) provides software publishers with strong anti-piracy and IP protection solutions, offering unmatched flexibility in assisting you to protect your revenue and increase sales. The Sentinel system prevents unauthorized use of software, protects software copyrights and intellectual property, and offers multiple licensing models.

The strength, uniqueness, and flexibility of Sentinel LDK are based on two primary principles:

- *Protect Once—Deliver Many™* — the concept of separating the software engineering and business processes.
- *Cross-Locking™* — the technology that supports the Protect Once—Deliver Many concept, enabling a protected application to work with a Sentinel hardware key or a Sentinel License Certificate (software key).

All commercial decisions, package creation and license definitions are executed by product or marketing managers after the protection has been implemented.

This workflow model provides you with greater flexibility and freedom when defining new sales and licensing models, including feature-based and component licensing, evaluation, rental, floating, subscription, provisional (trial/grace), pay-per-use, and more, enabling you to focus on revenue growth.

Sentinel Vendor Keys

When you purchase Sentinel LDK, you are provided with two Sentinel Vendor keys—the Sentinel Master key and the Sentinel Developer key.

The Sentinel Developer key is used by your software engineers in conjunction with the Sentinel LDK protection tools to protect your software and data files.

The Sentinel Master key is used in conjunction with Sentinel LDK and is attached to the Sentinel EMS Server. The key is used by your production staff to create licenses and lock them to Sentinel protection keys, to write specific data to the memory of a Sentinel protection key, and to update licenses already deployed in the field.

Every Sentinel EMS Server computer must have a Sentinel Master key connected.

Obtaining Support

You can contact us using any of the following options:

- **Business Contacts** - To find the nearest office or distributor, use the following URL: <http://www.safenet-inc.com/contact-us/>
- **Technical Support** - To obtain assistance in using SafeNet products, feel free to contact our Technical Support team:
 - Phone: 800-545-6608 (US toll free), +1-410-931-7520 (International)
 - E-mail: support@safenet-inc.com
 - URL: <http://sentinelcustomer.safenet-inc.com/sentinelsupport/>
- **Downloads** - You can download installers and other updated components using this URL: www.sentinelcustomer.safenet-inc.com/sentineldownloads/

Help Us to Improve Sentinel LDK

You can make a difference! We invite you to send us your ideas and opinions, and tell us what you like (and don't like) about Sentinel LDK. Your input can help shape future versions of the product.

Feedback on Sentinel LDK can be sent to: ldkfeedback@safenet-inc.com

What's New in This Release?

This section describes the main features and enhancements that are introduced in Sentinel LDK v.6.4.

Sentinel HL Keys No Longer Require Drivers

On Windows platforms, Sentinel HL (Driverless configuration) keys no longer require the installation of Sentinel Run-time Environment or any other drivers the machine where the protected application is installed. To access the protection key, the protected application makes use of existing HID protocol that is part of the Windows operating system. The end user simply installs the protected application and attaches the Sentinel HL (Driverless configuration) key. (However, Run-time Environment version 6.55 or later must be installed on the same machine or on a different machine if you want to use Admin Control Center to view protection keys or sessions.)

Extended Support for Sentinel HL Hardware Keys

Support for Sentinel HL keys has been extended as follows:

- Sentinel HL keys configured for HASP or SuperPro compatibility can now be upgraded to Driverless configuration.
- Sentinel HL (Driverless configuration) keys now support a greater number of Features. (For more information, see the *Sentinel HL Data Sheet*.)



Currently, Sentinel HL Net keys and Sentinel HL NetTime keys are only available in HASP configuration. Therefore installation of the Run-time Environment is required when using these keys.

Sentinel HL Keys Can Now Be Upgraded to Driverless Configuration

On Windows platforms, Sentinel HL (HASP configuration) keys that were previously delivered to customers can now be upgraded to Sentinel HL (Driverless configuration) keys in the field. As a result, these customers will no longer require the Sentinel LDK Run-time Environment when they receive new versions of the protected application.

The following limitations apply:

- The application must be protected using version 6.4 of Sentinel LDK, Licensing API libraries and/or Envelope.
- You must be using version 6.4 of Sentinel EMS or License Generation API to generate the Product that upgrades the HL key.
- The firmware on the Sentinel HL key will be automatically updated as part of the upgrade process.
- Sentinel HL Net and NetTime keys cannot be upgraded to Driverless configuration.



An application that is protected with version 6.3 of Sentinel LDK, Licensing API libraries and/or Envelope will work correctly after the Sentinel HL (HASP configuration) key that licenses the application is upgraded to the Driverless configuration. However, the requirement for the Run-time Environment will not change.

Warning: An application that is protected with version 6.1 or earlier of Sentinel LDK libraries, Licensing API libraries and/or Envelope will stop working if the Sentinel HL (HASP configuration) key that licenses the application is upgraded to the Driverless configuration.

The upgrade process for the Sentinel HL key is not reversible.

Sentinel HL Max Key Is Now Available in Chip Form Factor

The Sentinel HL Max key is now available as an IC chip that can be permanently embedded inside your device. (For more information, see the *Sentinel HL Chip Form Factor Data Sheet*.)

Software Manager System

A Software Manager system has been implemented to keep you informed when upgrades to Sentinel LDK software are available. The system notifies you of the available upgrades and optionally downloads and installs the software. This ensures that you always have the latest version of the Sentinel LDK software on your computer. You can configure the Software Manager system to control how often it checks for updates or to disable the system.

Enhancements to Sentinel LDK Envelope

- Java Envelope now supports annotations.
- For Windows and Linux applications, Java Envelope now supports protection of applications that will be deployed under JBoss Application Server 7. (For more information, see the Sentinel LDK Envelope Help.)
- Java Envelope now supports exception handling for Java applications. (For more information, see the Sentinel LDK Envelope Help.)
- .NET application can now be protected using the most secure methods available. However, the security level can be reduced slightly, if necessary, by selecting the option **Child process compatibility**. This enables a .NET application to be launched as a child process.
- For Windows applications, you can now set a fixed seed for generating protection values. This ensures that the binary generated for a given application will be identical each time the application is protected. This can be useful for certain testing scenarios.

Sentinel LDK is Supported Under Additional Operating Systems

- Sentinel LDK Vendor Suite is now supported under Microsoft Windows 8.
- Sentinel EMS is now supported under Microsoft Windows 8.
- Sentinel Run-time Environment is now supported under Microsoft Windows 8, Windows Server 2012, and Mac OS x 10.8.

Enhancement to Sentinel Vendor Suite Program Selection Screen

In the Sentinel Vendor Suite program selection screen, it is no longer necessary to collapse an open category when you want to select a different category.

Enhancement to Sentinel LDK ToolBox

ToolBox now supports upgrading a Sentinel HL (HASP configuration) key to a Sentinel HL (Driverless configuration) key. For more information, see the relevant migration guide.

Enhancement to Admin API

A new function called **sntl_admin_context_new_scope** is available in Admin API. This function enables you to establish the session context either to a Sentinel License Manager service (in the Sentinel LDK Run-time Environment), or to the Integrated License Manager of the Runtimeless API (in a protected application).

Improved Sentinel LDK Installer

The Sentinel LDK installer has been streamlined to simplify the installation procedure for Sentinel EMS and Sentinel Vendor Tools. The installer now requires a minimal amount of user intervention to complete the installation process.

What's Changed in This Release?

This section describes significant changes from earlier releases that have occurred in this release of Sentinel LDK (Sentinel License Development Kit).

Changes to Sentinel Vendor Keys

ISVs who have a HASP Master key (labeled "HASP Master") and want to create license updates for Sentinel HL (Driverless configuration) keys will need to obtain a new Sentinel LDK Master key (labeled "Sentinel LDK Master"). The Sentinel LDK Master key should be used in parallel with your existing HASP Master key. (It is not necessary to introduce the Sentinel LDK Master key.) For more information, contact your SafeNet sales representative. Updates to the Master key (such as adding Standalone Licenses or network seats should be performed using your original HASP Master key.

ISVs who have a HASP Developer key (labeled "HASP Developer") and who want to protect Mac or Linux applications with Envelope for use with Sentinel HL (Driverless configuration) keys will need to obtain a new Sentinel LDK Developer key (labeled "Sentinel LDK Developer"). The Sentinel LDK Developer key should be used in parallel with your existing HASP Developer key. (It is not necessary to introduce the Sentinel LDK Developer key.) For more information, contact your SafeNet sales representative.

Viewing Sentinel HL (Driverless Configuration) Keys in Admin Control Center

When application are protected using Sentinel LDK Envelope in Sentinel LDK 6.4, session information for the Sentinel HL (Driverless configuration) keys that are used to license the application will not be visible in older versions of Sentinel Admin Control Center. To view this session information, it is necessary to install the Run-time Environment provided with Sentinel LDK 6.4 (that is, Run-time Environment version 6.56 or later).

sntl_admin_set Values

Documentation for Admin API has been updated to include detailed values for the sntl_admin_set function.

Merged Licensing APIs Are Not Supported

Support for merging of downloaded Licensing APIs for multiple Batch Codes has been discontinued starting with Sentinel LDK v.6.0.

Dropped Support for PowerPC

Sentinel LDK Suite and Sentinel Run-time Environment are no longer supported for Mac PowerPC.

Dropped Support for KVM Virtual Environment

Sentinel LDK is no longer supported for Red Hat KVM virtual environment.

Changes to Envelope User Interface

The **Sentinel Batch Code** screen in Sentinel LDK Envelope is now called the **Sentinel Vendor Code** screen. The standardization of terminology in the screen makes the screen easier to understand and work with. In addition, when the option "Use Vendor Code from Database" is selected, the Vendor Code that has been selected is now clearly indicated.

Supported Platforms for Sentinel LDK - End Users and Vendors

Supported Platforms for End Users

Sentinel LDK Run-time Environment, Protected Applications

The Sentinel LDK Run-time Environment, and protected applications (with or without the Run-time Environment) can be installed under the following systems:

System	Supported Versions
Windows	<ul style="list-style-type: none"> ■ (x86 and x64) Windows XP, Windows Vista, Windows 7, Windows 8, Windows Server 2003, Windows 2008, Windows 2008 R2, Windows Server 2012 ■ (x86 only) Windows XP Embedded <p>Sentinel LDK Run-time Environment has been certified by Microsoft as “Compatible with Windows 8” (x86 and x64).</p>
Mac	<ul style="list-style-type: none"> ■ Mac OS X 10.6.8 (32-bit and 64-bit, Intel processor only) ■ Mac OS X 10.7.5, 10.8.2 (64-bit, Intel processor only)
Linux	<ul style="list-style-type: none"> ■ OpenSUSE 12.2 (x86 and x86_64) ■ Red Hat EL 5.8 and 6.3 (x86 and x86_64) ■ Ubuntu Desktop 10.04 (x86 and x86_64) ■ Ubuntu Server 10.04 (x86 and x86_64) ■ Debian 6.0 (x86 and x86_64) ■ CentOS 6.3 (x86 and x86_64)
Virtual Machines	<p>Sentinel LDK supports installing protected applications on the following VM platforms:</p> <ul style="list-style-type: none"> ■ Virtual Box 4.2.6 ■ Parallel Desktop 8 ■ VMware Player 5.0.0 ■ Hyper-V Server 2012 (SL only) ■ VMware Workstation 9.0 ■ VMware ESXi 4.0 ■ VMware ESXi 5.0

Web Browsers for Sentinel Admin Control Center

- Microsoft Internet Explorer (32-bit) versions 8, 9, 10
- Mozilla Firefox (32-bit) version 15
- Google Chrome (32-bit) version 23
- (Mac) Safari 5.0, 6.0

Supported Platforms for Vendors

Sentinel LDK Run-time Environment


Sentinel LDK components, and applications that are protected using Sentinel LDK 6.4, are compatible with the following Run-time Environments:

System	Supported Run-time Environment
Windows	Version 6.56 and later
Mac	Version 6.4 and later
Linux	Version 2.1.1 and later

Sentinel EMS Service

System	Supported Versions
Windows	(x86 and x64) Windows XP, Windows Server 2003, Windows 2008, Windows 7, Windows 8.

Sentinel EMS Database

System	Supported Database Server Software
Windows	<ul style="list-style-type: none"> ■ Microsoft SQL Server 2005 x86/x64 ■ Microsoft, SQL Server 2005 Express Edition (must be enabled for remote connections) x86/x64 ■ Microsoft SQL Enterprise 2008 x86/x64 ■ Microsoft SQL Enterprise 2008 R2 x86/x64 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  If you want, Microsoft SQL Server 2008 R2 Express Edition can be installed automatically by the Sentinel EMS Installation wizard. The installer for this version of Microsoft SQL Server is also available on the Sentinel LDK installation DVD. </div>

Web Browsers for Sentinel EMS

- Microsoft Internet Explorer versions 8, 9, 10
- Mozilla Firefox versions 13, 14
- Google Chrome version 20

You must use a 32-bit Web browser for any action in Sentinel EMS that accesses a protection key (such as burn, recycle, check in key, or online activation). You can perform all other actions in Sentinel EMS using a 32-bit or 64-bit Web browser.

Sentinel LDK Vendor Tools

System	Supported Versions
Windows	<ul style="list-style-type: none"> ■ (x86 and x64) Windows XP, Windows Vista, Windows 7, Windows 8, Windows Server 2003, Windows 2008, Windows 2008 R2, Windows Server 2012 ■ (x86 only) Windows XP Embedded <p>Sentinel LDK Run-time Environment has been certified by Microsoft as “Compatible with Windows 8” (x86 and x64).</p>
Mac	<ul style="list-style-type: none"> ■ Mac OS X 10.6.8 (32-bit and 64-bit, Intel processor only) ■ Mac OS X 10.7.5, 10.8.2 (64-bit, Intel processor only)
Linux	<ul style="list-style-type: none"> ■ OpenSUSE 12.2 (x86 and x86_64) ■ Red Hat EL 5.8 and 6.3 (x86 and x86_64) ■ Ubuntu Desktop 10.04 (x86 and x86_64) ■ Ubuntu Server 10.04 (x86 and x86_64) ■ Debian 6.0 (x86 and x86_64) ■ CentOS 6.3 (x86 and x86_64)

Code Samples

Sample	Support Considerations	
Sentinel Licensing API Sample	Programming Language	Tested Compilers
	AutoCAD	AutoCAD 2009, AutoCAD 2010
	C	Visual Studio 2008, Visual Studio 2005, C++ Builder, Developer Studio 2006
	C++	Visual Studio 2010, Visual Studio 2008, Visual Studio 2005, C++ Builder, Developer Studio 2006
	C#	Visual Studio 2010, Visual Studio 2008, Visual Studio 2005
	Delphi	Delphi 2007, Developer Studio 2006
	Java	Java Developer Kit 1.6 Java Developer Kit 1.5
	Visual Basic	Visual Studio 6
	Visual Basic .NET	Visual Studio 2010, Visual Studio 2008, Visual Studio 2005
	4D	4D v11 for Mac OS and Windows
Sentinel Licensing API – C Sample for Mac OS X	Operating Systems supported: <ul style="list-style-type: none"> ■ Mac OS X 10.6.8 ■ Mac OS X 10.7.5 ■ Mac OS X 10.8.2 	

Sample	Support Considerations	
Sentinel LDK Run-time Environment Installer API Sample	Programming Language	Tested Compilers
	MSC	Visual Studio 2008, Visual Studio 2005, Visual Studio 2010
	MSI	InstallShield 2008, InstallShield 12, Wise Installer 7, Wise Installer 6.2
Sentinel Activation API Sample	Programming Language	Tested Compilers
	C	Visual Studio 2003, Visual Studio 2005, Visual Studio 2008
Sentinel LDK Run-time Environment Installer for Mac OS X	Operating Systems supported: <ul style="list-style-type: none"> Mac OS X 10.6.8 (32-bit and 64-bit, Intel processor only) Mac OS X 10.7.5, 10.8.2 (64-bit, Intel processor only) 	
Sentinel LDK Licensing API – 4D Sample for Mac OS X	Operating Systems supported: <ul style="list-style-type: none"> Mac OS X 10.6.8 (32-bit and 64-bit, Intel processor only) Mac OS X 10.7.3, 10.8.1 (64-bit, Intel processor only) Version of 4D supported: <ul style="list-style-type: none"> 4D v11 SQL 	
Sentinel LDK Licensing API – 4D Sample for Windows	Version of 4D supported: <ul style="list-style-type: none"> 4D v11 SQL 	
Sentinel Activation API	Operating Systems supported: <ul style="list-style-type: none"> Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7 (32-bit and 64-bit) Windows 2000 (32-bit) 	
Sentinel Activation API for Mac	Operating Systems supported: <ul style="list-style-type: none"> Mac OS X 10.5.8, 10.6.8, 10.7.x 	
Sentinel Activation Sample for Java	Java version supported: JDK 1.6.	

Sentinel LDK Documentation

The documents and online help systems described below are provided in this release of Sentinel LDK.


Documents

Sentinel LDK documents (PDF files) can be found:

- on the Sentinel LDK Installation DVD, under: **\Windows\Installed\Docs**
- where Sentinel LDK is installed, under: **...\Program Files\SafeNet Sentinel\Sentinel LDK\Docs**
- where Sentinel EMS is installed, under: **...\Program Files\SafeNet Sentinel\Sentinel EMS\EMSServer\webapps\ems\Docs**

(For Windows x64, under **\Program Files (x86)\...**)

Document	Description
Sentinel LDK Installation Guide	Details the prerequisites and procedures for installing Sentinel LDK Vendor Tools, Sentinel EMS Server, and the Run-time Environment.
Sentinel LDK Software Protection and Licensing Guide	Provides in-depth information about the logic of the applications and best practices for maximizing your software protection and licensing strategies. Describes a wide range of licensing strategies and models that you can implement, and can serve as the basis for elaboration and for creating new, tailor-made licensing models.
Sentinel LDK Software Protection and Licensing Tutorials	Guide you through the basic procedures of Sentinel LDK to familiarize you with the applications and their functionality. • The Demo Kit tutorial is for vendors who wish to evaluate Sentinel LDK. • The Starter Kit tutorial is for vendors who have just purchased Sentinel LDK. Two versions of each tutorial are provided – one for working with Sentinel EMS as the back office system, and one for vendors who want to provide their own back office system and use only the Sentinel LDK APIs to handle licensing and protection.
Quick Start Guides	Provides a short and simple demonstration of how you can easily protect your software using Sentinel HL keys. Separate Demo Kit and Starter Kit guides are provided.

Document	Description
Sentinel HL Drive Flash Partitioning Utility – User Guide	Describes how to use the Sentinel HL Drive partitioning utility and API to load your Sentinel LDK-protected applications and data onto the CD-ROM partition of a Sentinel HL Drive, and ship it to your customers. Your customers can save files to Sentinel HL Drive or load additional software on it, and thus utilize the convenience of USB flash drive functionality.
Guides for Migrating to Sentinel LDK	<p>These guides describe how to migrate to Sentinel LDK from:</p> <ul style="list-style-type: none"> - Hardlock - SmartKey - Sentinel SuperPro - HASP HL - HASP4 - Sentinel Hardware Keys - Sentinel HASP <p>Migration Guides will be available from here.</p>
Integrating Sentinel EMS Server into Your Existing Back-Office Systems	Outlines the many ways that software vendors can maximize the potential of their existing back-office systems, such as ERP, CRM, and business intelligence systems, through seamless integration with Sentinel EMS Server.
Sentinel EMS Configuration Guide	Provides information on setting up and configuring Sentinel EMS to satisfy the requirements of your organization.
Sentinel EMS User Guide	Provides the Sentinel EMS user with detailed directions on how to set up license entities and how to handle entitlements, production, and support for Sentinel HL and SL keys. (This information is also provided in online help for the Sentinel EMS user interface.)
Sentinel EMS Web Services Guide	Provides the developer with an interface for integrating Sentinel EMS functionality into the vendor's existing back-office systems.
 The document "Transitioning From HASP SRM v.2.x" is no longer provided on the Installation DVD. If you require this document, contact Technical Support.	

Help Systems - User Interfaces

The documentation described in the table that follows can be accessed from the user interface for the relevant Sentinel LDK component.

Online Help System	Description
Sentinel LDK Admin Control Center	Documentation for the end user, describing the Admin Control Center and providing instructions for performing the various functions such as updating or attaching licenses.
Sentinel EMS	Provides the Sentinel EMS user with detailed directions on how to set up license entities and how to handle entitlements, production, and support for Sentinel HL and SL keys.
Sentinel LDK Data Encryption Utility	Provides the developer with a description of the Sentinel LDK Data Encryption utility (formerly DataHASP utility), used for protecting data files that are accessed by Sentinel LDK Envelope.
Sentinel LDK Envelope (Separate versions for Windows and for Mac)	Describes how to employ Sentinel LDK Envelope to automatically wrap your programs with a protective shield. The application provides advanced protection features to enhance the overall level of security of your software.
Sentinel LDK ToolBox	Describes how to work with the ToolBox user interface for the Licensing API, License Generation API, and Admin API. Using Sentinel LDK ToolBox, the developer can experiment with the individual functions that are available in each API and can generate programming code for insertion in the developer's own program. Provides full documentation for each of the included APIs.

Online Help Systems - Sentinel LDK APIs

Documentation for the Sentinel LDK APIs described below can be found:

- on the Sentinel LDK Installation DVD, under: \Windows\Installed\API\
- where Sentinel LDK is installed, under:... \Program Files\SafeNet Sentinel\Sentinel LDK\API\
(For Windows x64, under \Program Files (x86)\...)

Sentinel LDK API	Description
Activation API Reference	Together with various Licensing API functions, this API assists the developer in communicating with the Sentinel EMS Server.
Licensing API Reference (formerly Run-time API)	Provides the developer with an interface to use the licensing and protection functionality available in the Sentinel LDK Run-time Environment.

Sentinel LDK API	Description
Run-time COM API	Provides the developer with access to Sentinel HASP Run-time Environment functionality, through an interface written for the Microsoft Component Object Model (COM).
Run-time Installer API	Provides the developer with an interface for integrating installation of the Run-time Environment into the installation of the vendor's protected application.
Sentinel EMS Web Services	Provides the developer with an interface for integrating Sentinel EMS functionality into the vendor's existing back-office systems. (Documentation is available from the index.html menu under ...\Program Files\SafeNet Sentinel\Sentinel EMS\EMSServer\webapps\ems\Docs\ (For Windows x64, under \Program Files (x86)\...)
License Generation API Reference	Provides access to the power and flexibility of Sentinel protection keys without the need to employ the full Sentinel EMS system. The developer can call functions in this API to generate and update licenses for Sentinel protection keys.
Admin API	Provides the functionality available in Admin Control Center and Sentinel License Manager in the form of callable API functions.

Software and Documentation Updates

SafeNet recommends that you frequently visit the [Sentinel downloads page](#) to ensure that you have the most recent versions of Sentinel LDK software and documentation, and for documentation in other languages.

Known Issues and Workarounds

The known issues in Sentinel LDK v.6.4 that are likely to have the most significant impact on users are listed below, according to component.

Sentinel Vendor Suite Installation

Ref	Issue
133240	<p>When Installing Sentinel Vendor Suite under Windows 2003, the installation may fail with an internal error or with error messages similar to the following:</p> <p style="padding-left: 40px;">Error 1718. File <i>fileName</i> was rejected by digital signature policy. Installation ended prematurely because of an error.</p> <p>This problem is caused by a known issue in Windows 2003. To resolve this problem, go the following Microsoft URL: http://support.microsoft.com/kb/925336</p>
130317	<p>During installation, the file haspnedrt.dll may be detected as malware by AVG anti-virus. This is a false positive, and the file is safe to use. SafeNet has notified AVG Technologies about this issue.</p>
171812	<p>In a machine with an Nvidia graphics card and AMD64 processor, installation of Sentinel EMS stops responding after the installer displays the "installed successfully" screen. At this point, installation of Sentinel EMS has succeeded, but the Finish button is not displayed, and the installer cannot continue with the installation of Sentinel Vendor Suite (if you requested to install it).</p> <p>Workaround: Perform the installation using a remote desktop. Alternatively, cancel the installation wizard when the "installed successfully" screen is displayed, and then run the installation wizard a second time and select only the Vendor Suite for installation.</p>
172141	<p>On a machine with a localized operating system, installation of Sentinel EMS in a directory whose name contains localized characters fails with "Error 1324".</p> <p>Workaround: Install Sentinel EMS in a directory whose name does not contain localized characters.</p>
180267 180270	<p>When Sentinel LDK is installed on a machine that connects to the Internet using a proxy, the update download may fail or may show incorrectly that updates are not available. This issue should resolve itself when the Software Manager application is automatically updated. Until this occurs, SafeNet recommends that you periodically check Sentinel Customer Community website for information on new available downloads.</p>

Sentinel EMS

Ref	Issue
143768	<p>If Sentinel EMS is configured to work with a remote database that uses a password that contains non-English letters, Sentinel EMS Service fails to log in successfully to the remote database.</p> <p>Workaround: Change the password for the database so that it does not contain non-English letters.</p>
167309	<p>In the RUS Branding screen, the list field for selecting the font does not work correctly in the Google Chrome browser.</p> <p>Workaround: Use a different browser to edit the RUS Branding screen.</p>
182435	<p>In the "Produce Sentinel HL Keys" screen: When burning the key for a Product that has only the "Upgrade to Driverless" flag set on, but no Features or memory data, all keys in the Valid Keys pane are shown as disabled.</p>
182566	<p>If you are viewing previous activations for "Protection Key Update Entitlement" and attempt to download V2C files for all the activations in that entitlement, the download will not succeed if more than 1,000 V2C files must be downloaded.</p>
182632	<p>When using the Firefox Web browser version 18 (released on Jan. 8, 2013): Each time that the user attempts to use one of the following applets in Sentinel EMS:</p> <ul style="list-style-type: none"> ▪ Product Memory ▪ Recycle ▪ Burn Key ▪ Check in Key ▪ Online Activation <p>Firefox notifies that Java version 7 update 5 (that is bundled with the applet) is vulnerable and attempts to block it. The user must enable the applet each time.</p>
184601	<p>While accessing applets, a security warning for unknown publisher appears. You need to accept and click RUN to continue.</p>

Sentinel LDK Master Wizard

Ref	Issue
139726	<p>Under some versions of openSUSE Linux, when the Master Wizard is run as root, the application hangs with the following output:</p> <pre>qctest@linux-g09j:~/Desktop/Linux/VendorTools/VendorSuite> su Password: linux-g09j:/home/qctest/Desktop/Linux/VendorTools/VendorSuite # ./masterhasp ** Glib-GIO:ERROR:gdbusconnection.c:2279:initalable_init: assertion failed: (connection->initialization_error == NULL) Aborted</pre> <p>This appears to be the result of a known issue in openSUSE.</p> <p>Workaround:</p> <p>Enter the following commands to run the Master Wizard:</p> <pre>su - ./masterhasp</pre> <p>(Note the syntax: "su -")</p>
172697	<p>When the Master Wizard is run from the console under Debian 6.0, the following warning is displayed:</p> <pre>Qt: Session management error: None of the authentication protocols specified are supported</pre> <p>This message can be ignored. The Master Wizard performs its function correctly.</p>

Sentinel LDK Runtime Environment Installer

Ref	Issue
8475	<p>When you attempt to integrate the Sentinel LDK Run-time Environment Installer MSM module in your Windows Vista installation package, a warning may be displayed. This is a known issue for the Installer, and the message can be ignored. For more information about this issue, go to the following URL:</p> <p>http://kb.flexerasoftware.com/selfservice/microsites/search.do?cmd=displayKC&docType=kc&externalId=Q107955&sliceId=1&docTypeID=DT_ERRDOC_1_1&dialogID=95513399&stateId=0%200%2095503947</p>

Ref	Issue
136831	<p>Given the following circumstances:</p> <ul style="list-style-type: none"> ■ A hasplms service exists in a location other than c:\windows\system32. ■ haspdinst is used install the Run-time Environment. <p>haspdinst will copy the new hasplms.exe file to the standard location, but then start the old hasplms.exe.</p> <p>Workaround: Stop and <i>remove</i> the old hasplms.exe service before executing haspdinst.exe.</p> <p>(HASPUserSetup.exe and haspds.msm do not show this behavior. They always stop and remove a running hasplms service, then install and start the new one correctly.)</p> <p>This issue also exists in SRM 5.x and below.</p>
182664	<p>For Virtual Box 4.2.6: Under Windows XP x86 German, a Stop message (BSoD) sometimes occurs while installing Run-time Environment version 6.55.</p>

Sentinel LDK Runtime Environment and Customer Tools

Ref	Issue
12506	<p>Sentinel LDK communicates via TCP and UDP on port 1947. This port is IANA-registered exclusively for this purpose. At the end user site, the firewall must be configured so that communication via this port is not blocked.</p>
14827	<p>Given the following situation:</p> <p style="padding-left: 40px;">A Product is protected by a Sentinel SL protection key and allows concurrency.</p> <p style="padding-left: 40px;">The number of concurrent users is the maximum allowed.</p> <p>Additional users attempting to access the protected software receive the message "Access denied" instead of the message "Too many users."</p>
99350	<p>On the Mac OS 10.6 Server with 64-bit kernel extension: The Run-time C samples (static, shared, Xcode static and shared) sometimes stop responding after displaying the copyright notice.</p> <p>Workaround: Install the latest operating systems updates (10.6.8 or later) from Apple.</p> <p>Note: If the precompiled Run-time sample binaries do not function properly (they do not respond when executed), recompile the binaries with Xcode or GCC.</p>
137995	<p>When a Feature that is disabled for virtual machines is accessed in a VM environment, the Run-time Environment returns the message HASP_FEATURE_NOT_FOUND instead of HASP_VM_DETECTED.</p>
140898	<p>Under the Linux operating system, Sentinel License Manager does not support the IPV6 network protocol.</p>
144293	<p>In Admin Control Center, when the user clicks the Certificate button to display certificate information regarding an updated license, the certificate displayed is from the base version of the license. (This issue has no impact on license functionality.)</p> <p>This issue does not exist in Sentinel Admin API.</p>

Ref	Issue
180256	When a computer names contains UTF-16 characters, Admin Control Center displays the short name for the computer (similar to Windows Explorer). Similarly, the sntl_admin_get function in Admin API returns the short name.
182646	<p>After Windows 7 is upgraded to Windows 8, the user is not able to use existing SL licenses or to install new SL licenses.</p> <p>Workaround:</p> <p>After you upgrade from Windows 7 to Windows 8, reinstall the Run-time Environment</p>

Sentinel LDK ToolBox

Ref	Issue
183073	In the current release, Sentinel LDK ToolBox does not support the new sntl_admin_context_new_scope() function in the Admin API. However, the function appears in the Help system for Sentinel LDK ToolBox, and the function is supported by the Admin API.

Sentinel LDK Envelope for Windows Platforms

General

Ref	Issue
92503	<p>If you move an Envelope project file from its original location to a different location, then the next time you open the project, Envelope displays an incorrect path for the output (protected) file.</p> <p>You can use either of these workarounds to move an Envelope project file to a new location:</p> <ul style="list-style-type: none"> ■ Use the Save As option from the Envelope File menu to save the project to the new location. (You can afterwards delete the original project file.). ■ Copy the directory structure containing both the project file and the related unprotected binary to the new location.
93877	(For Windows Vista and Windows 7) In the event that the error “Serious internal engine error (65535)” is displayed, make sure that you have write permission for the specified output directories and that the output directory is not protected by Windows UAC.

Ref	Issue
178432	<p>If the installation path for the Vendor Suite contains GB 18030 or Unicode characters, then the help file for Envelope, ToolBox, or Data Encryption utility does not open. This is Microsoft limitation. See the related article link: http://support.microsoft.com/kb/2606439</p> <p>Workaround: Manually open the help files after copying them from <code>\Windows\Installed\VendorTools\VendorSuite\translations\6.4</code> on the DVD to a location on your local hard drive whose path name does not contain GB 18030 or Unicode characters.</p> <p><i>OR</i></p> <p>Install the Vendor Suite in a location whose path name does not contain GB 18030 or Unicode characters.</p>
182883	<p>If the logon user name for Envelope contains multibyte UTF-8 characters: When the user attempts to protect an application, the error "Undefined engine error (1)" is generated.</p> <p>Workaround: Do not use multibytes UTF-8 characters in the logon user name.</p> <p><i>OR</i></p> <p>In the Envelope Settings screen (Advanced tab), select the option to use Legacy Envelope engines.</p>
183967	<p>If an Envelope project name contains Unicode characters, then while launching Data Encryption from Envelope, the message "Could not open project" is displayed.</p> <p>Workaround: Do not include Unicode characters in the Envelope project name.</p> <p><i>OR</i></p> <p>Do not launch Data Encryption from within Envelope. Instead, start the Data Encryption utility (datahasp.exe). In the Data Encryption utility, click New project and provide the path of the Envelope project.</p>
185624	<p>In the Protection Settings for a Windows DLL, you cannot select the option User debugger detection.</p> <p>Workaround:</p> <ol style="list-style-type: none"> Select the option Overwrite default protection settings. Save the project and close Envelope. Restart Envelope. <p>You can now select the option User debugger detection.</p>

Java

Ref	Issue
11043	<p>To protect JAR files using Sentinel LDK Envelope on Windows 2008 Server 64-bit computers, you must have the Win32 Java Run-time Environment (JRE) installed, even if you already have the Windows x64 JRE installed. Alternatively, ensure that the path to the Windows x64 JRE is included in the system path variables.</p>

Ref	Issue
91963 (CASE 20)	<p>When a (vendor) developer attempts to create a shared object file that links to the Sentinel LDK shared object file libhasp_linux_batchCode.so, error messages similar to the following are displayed:</p> <pre> user@host:~/Desktop/API/Runtime/Java/source> ./build_linux_x64.sh Building HASP Java native library /usr/lib64/gcc/x86_64-suse-linux/4.3/../../../../x86_64-suse-linux/bin/ld: HASPJava.o: relocation R_X86_64_32 against `a local symbol' can not be used when making a shared object; recompile with -fPIC HASPJava.o: could not read symbols: Bad value collect2: ld returned 1 exit status </pre> <p>This problem occurs because the Sentinel Licensing (Run-time) API was not compiled to allow position-independent code generation (using the -fPIC flag).</p> <p>Workaround: You can obtain a version of the Sentinel Licensing API that was compiled with the -fPIC flag. For more information, contact Technical Support.</p>
93464	<p>Envelope v.5.10 and Envelope v.6.0 both provide extensive enhancements for protection of Java programs. As a result, projects for Java programs that were created before the release of this version of Envelope must be updated using the Sentinel LDK Envelope GUI. (Make sure that you update existing Envelope projects as described below before you attempt to use the current Envelope command-line utility with these projects.)</p> <p>To update an existing Envelope project (v.5.10 or earlier) to v.6.0 or later:</p> <ol style="list-style-type: none"> 1. Open the project in the Sentinel LDK Envelope v.6.0 GUI and click the application in the Project pane. Envelope fills in the class/method list. By default, some methods are preselected. This is equivalent to the results expected when adding a new project. 2. Review the selection of methods that were selected by default for protection. For more information, see “Optimizing Protection Settings for Performance and Security” in the Sentinel LDK Envelope online help. 3. Save the project.
94373	<p>One of the optional behaviors in Envelope for protecting JEE applications is to halt the thread if the protected JEE application fails to detect a Sentinel protection key. This behavior is controlled by the advanced protection property SUSPEND_THREADS. However, the protection mechanism also halts all threads from all third-party application running in the same Java Virtual Machine instance (JVM) on the Tomcat server. (Note that each Tomcat server only starts a single JVM instance.) Therefore, when protecting JEE applications in Envelope, the default value for the SUSPEND_THREADS property is currently set to False (although the documentation states that it is set to True). If you attempt to set the value for this property to True, a warning message is displayed.</p>

Ref	Issue
95269	The current release of Sentinel LDK Envelope does not support protection of Java paint methods, but it allows you to select them in the user interface. As a result, the protected program may cause a deadlock when it executes a protected paint method at runtime with no Sentinel key connected. To prevent this issue from occurring, you can deselect all paint methods. Note that paint methods do not usually contain application logic; therefore, deselecting them typically has no impact on security. As an alternative, you can select console output for messages by enabling stderr output instead of windows in the Advanced settings panel.
95491	<p>The current release of Sentinel LDK Envelope does not support protecting instance methods that call instance methods of the super class. Note that such methods are not detected by the Envelope and may be selected for protection by default. As a result, the protected application may trigger an <i>IllegalAccessError</i> exception during runtime.</p> <p>To prevent such exceptions, you can disable the protection of methods that contain calls to super class methods. Note that this reduces the level of protection.</p> <p>As an alternative, you can create a new class with a method that contains only the code leading up to (but not including) the call to the super instance method. You can protect this method instead of protecting the original method that contains the super instance method call.</p>
104163 (99869)	<p>A protected JAR/WAR archive that contains Unicode characters in its path or name will not operate under the native operating system. Although there is small chance that the archive will run (depending on the type of Unicode characters that are used), in most cases the application will not run and will display an error message. (This problem does not occur on systems that use MUI for localization.)</p> <p>Workaround: Install the Tomcat server in a path whose name contains only ASCII characters. Ensure that the name of the WAR archive contains only ASCII characters.</p>
104179	<p>The number of instances of a protected application that can run in a network environment may exceed the number of concurrent instances allowed by the license terms.</p> <p>Workaround: In the protected application, call a Run-time API function to open a permanent session to the Feature for which concurrency is restricted.</p>
179821	The Java Envelope does not support unicode.
180073	When a protected Java application is executed, the execution counter is decremented once, and then decremented for each protected method. Therefore protected Java applications should not be licensed based on execution count.
180733	The current release of Envelope supports only one protected war file in a given JBOSS 7 Server.
181673	Legacy Envelope engines for Windows x86 and Windows x64 programs are not supported under Windows 8 (32-bit and 64-bit) or Windows 2012 Server.
None	If protected JEE applications from multiple vendors are deployed on a single Tomcat server, the applications will not operate.

.NET

Ref	Issue
89873	If a base class is selected to be obfuscated and a derived class is not set to be obfuscated, the derived class will not find the base class. Therefore, if you select a base class for obfuscation, you must also select any derived class for obfuscation.

Sentinel LDK Envelope and Data Encryption for Mac OS X

Ref	Issue
11416	In certain instances, a protected Mach-O binary may have a different owner and permissions than it had prior to protection with Envelope. This is caused because Envelope designates the current user (that is, the user applying the protection) as the owner of the newly-created files.
132292	<p>Applications that use deprecated functions or classes (for example: NSQuickDrawView used by SDL, deprecated since OS X 10.4.x) might fail to run under Mac OS X 10.7.x after protection. This is the case even if the unprotected application executes correctly or if the protected application executes correctly under versions of Mac OS X prior to 10.7.x</p> <p>Workaround: Do not use SDL or any other Library/Framework that relies on deprecated System Frameworks.</p>
151020	<p>Given the following situation:</p> <ul style="list-style-type: none"> ■ An application is protected using Envelope with the Data Encryption facility enabled. ■ The protected application is operated under OS X 10.6.x or later with Versions feature enabled. <p>Encrypted files may become corrupted, resulting in data loss.</p> <p>Workaround: Handle data encryption/decryption manually without using the Data Encryption facility. You can use the <code>hasp_encrypt</code> and <code>hasp_decrypt</code> functions in the Sentinel Licensing API. For examples that use these functions, see the Runtime samples provided for Mac. Check the SafeNet website periodically for an updated version of the Envelope that resolves this issue.</p>

Ref	Issue
175314	<p>When protecting a Mac application, the following error message may be displayed: "Insufficient GAP for protection. Processing aborted"</p> <p>If this occurs, do one of the following:</p> <ul style="list-style-type: none"> ■ For Realbasic applications, use a newer version of Realbasic. In laboratory tests at SafeNet, the problem did not occur when working with Real Studio 2012 Release 2. ■ For other applications, pass suitable values to the -headerpad argument to ld, the static linker. For more details, refer to the documentation for ld, gcc or clang. You can add the option in the Other Linker Flags in the Linking section of the build settings in Xcode. <p>The headerpad option requires a size value in hexadecimal notation. For example, for one VM page, specify 0x4000. For more information, see the manpages ("man ld") description of headerpad size.</p> <p>Note: Some projects do not use ld directly, but link the application via gcc or clang.</p>
177241	<p>Applications that implement the symbols malloc, calloc, free, realloc, dlopen, dlerror, dlsym, or dlclose cannot be protected.</p>
183388	<p>An application may fail to run if it has been built with LDK static libraries using the Dead Code Stripping linking option.</p> <p>Workaround: Do not use the Dead Code Stripping option in linking.</p>

