

Sentinel[®]LDK

Sentinel LDK v.6.3
Release Notes



Document Revision History

August 2012

Revision 1209-2

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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 un-authorized individuals. .

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Sentinel LDK v.6.3 - 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.

Technical Support

For assistance, or to report problems, contact your local [SafeNet representative](#), or create a support call at <http://www.safenet-inc.com/technicalsupport.aspx>.

Customer Connection Center (C3)	
http://c3.safenet-inc.com Existing customers with a Customer Connection Center account can log in to manage incidents, get latest software upgrades and access the complete SafeNet Knowledge Base repository.	
Support and Downloads	
http://www.safenet-inc.com/Support Provides access to knowledge base and quick downloads for various products.	
E-mail-based Support	
support@safenet-inc.com	
Telephone-based Support	
United States	(800) 545-6608, (410) 931-7520
France	0825 341000
Germany	01803 7246269
United Kingdom	0870 7529200, +1 410 931-7520
Australia and New Zealand	+1 410 931-7520(Intl)
China	(86) 10 8851 9191
India	+1 410 931-7520 (Intl)

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.6.3.



Most of the features described in this section were introduced in Sentinel LDK v.6.0 or 6.1. For ISVs who installed Sentinel LDK v.6.0 or 6.1, the new or modified features are those that are identified in this section as **New for 6.3**.

New Back-end System

Sentinel LDK now incorporates Sentinel EMS (Sentinel Entitlement Management System) as its back-end database server, web server, and user interface. From a single central installation in the ISV organization, Sentinel EMS can be accessed by all authorized users from their web browsers.

Sentinel EMS supports functionality from earlier versions of Sentinel HASP Business Studio.

Sentinel EMS also provides new functionality such as:

- a user portal that customers can access to activate their licenses online by entering a Product Key. In addition, customers can now be required to provide registration information before they can activate their licenses.
- the ability to burn multiple HL keys simultaneously. This can provide a significant time savings for the ISV.

For existing Sentinel HASP ISVs, Sentinel LDK provides the following to simplify the process of migrating to Sentinel EMS:

- Sentinel LDK Data Migration Tool - This tool migrates the content of Sentinel HASP Business Studio Server to the Sentinel EMS database.
- Business Studio Server API for Sentinel EMS - This API allows your CRM and ERP applications to access the Sentinel EMS database using existing Business Studio Server API function calls. This avoids the need to convert your applications to use Sentinel EMS Web Services.

Certificate-based Licensing

Sentinel SL protection keys are now implemented using certificates. These licenses are tamper-proof and can be generated in a clear-text format that can be read and understood by the ISV and customer. The certificate licenses on the end user's computer provide a history of the license for the protected application. This simplifies tracking changes and dealing with any licensing questions that may arise.

(New for 6.3) Updates to Sentinel SL AdminMode licenses can now be applied by simply placing the V2C file in the visible license store.

Next-generation Hardware Keys

(New for 6.3) HASP HL keys are being replaced with advanced Sentinel HL keys. The new Sentinel HL keys use smart card technology to provide a higher level of protection against hardware cloning. In addition, the new Sentinel HL keys provide the following:

- Two configurations of Sentinel HL keys are available:

- Driverless-configuration keys – When used with this type of HL key, the protected application does not use the HASP drivers included in the Run-time Environment. In future releases of Sentinel LDK, these keys will not require installation of the Run-time Environment. (**Note:** For the current release, Sentinel HL Net and NetTime keys are not available in the Driverless configuration.)
- HASP-configuration keys – When used with this type of HL key, the protected application requires the presence of the Run-time Environment. This type of key provides backward compatibility for protected application that work with HASP HL keys.
- Dynamic memory – Larger, more efficient utilization of on-key memory for Features.
- Infrastructure for the next security leap.

The new Sentinel HL keys are available as USB dongles. ExpressCards models are planned for the end of 2012.

ISVs who already have Vendor keys may require new Master and Developer keys. For more information, see ["What's Changed in This Release?" on page 11](#).

License Rehosting

ISVs now have the option to allow customers to rehost (transfer) a protection key from one computer to another without any intervention by the ISV customer support department and without requiring on-line connectivity to the ISV servers. This reduces the load on customer support and provides the customer with an improved end user experience.

Installation Without Administrator Rights

ISVs now have the option of providing a “UserMode” SL license for Windows platforms. This license does not require installation of the Run-Time Environment on the end user’s computer. This simplifies installation of the protected application for the end user and allows applications to be installed without requiring administrator rights.

In addition, for network licenses, end users may be able to install the protected application without installing the Run-time Environment on the same machine. Note that the Run-time Environment is still required on the machine where the Net key is connected.

SL Protection Keys for Linux

ISVs can now offer protected applications with SL keys for the Linux operating system.

Sentinel LDK Envelope Security Enhancement

Sentinel LDK Envelope now employs “white box” secure communication channel when protecting applications. This protects the encryption key from exposure to hackers.

Additional Enhancements for Sentinel LDK Envelope

- **(New for 6.3)** For .NET applications: Dispose methods are now deselected by default. Dispose methods typically contain no security logic or other critical logic and can be deselected to improve performance and reliability.
- **(New for 6.3)** For .NET and Java applications: When adding new methods to an existing project, you can choose to have Envelope select the methods to protect using the default selection method, or to leave new methods unprotected by default.
- **(New for 6.3)** When a class contains multiple constructors, the constructors are no longer grouped together in a single entry. It is now possible to select individual constructors to be protected.
- **(New for 6.3)** Envelope can now protect 64-bit Windows application that use file overlays.
- **(New for 6.3)** On Windows platforms, Sentinel SL UserMode is now supported for 64-bit applications with Windows Envelope, .Net Envelope, and Java Envelope protection.

Sentinel LDK Envelope for Mac Now Supports Data Encryption and Decryption

Sentinel LDK Envelope for Mac now adds the capability for a protected application to encrypt and decrypt data that is written to and read from an external file.

(New for 6.3) Data files that will be delivered together with the protected application can be pre-encrypted using the new Sentinel LDK Data Encryption utility for Mac. (This utility was previously referred to as the DataHASP utility).

Note: See the known issue "[151020](#)" on page 24

Sentinel License Generation API

For ISVs that already have a licensing infrastructure in place or that prefer to implement an alternative to Sentinel EMS and Sentinel EMS Server, Sentinel LDK offers a standalone licensing solution.

ISVs can use Sentinel License Generation API together with their existing licensing server software and ERP and CRM back office systems for maximum flexibility and control over their business processes.

Sentinel License Generation API provides the functionality required to generate and maintain Sentinel protection keys, but without any of the back office services that are provided by Sentinel EMS. All the required services are provided by the system that the ISV chooses to implement. The ISV would use Sentinel LDK only to handle the protection and licensing functions for their applications.

Sentinel License Generation API is incorporated into Sentinel LDK ToolBox. The online help for ToolBox includes descriptions of the API functions and the XML templates required to work with the API.

Sentinel Admin API

Sentinel Admin API provides the functionality available in Admin Control Center and Sentinel License Manager. ISV developers can call functions to retrieve information from local or remote

License Managers and to perform actions in these License Managers. For example, the developer can call functions to:

- Examine the configuration of a License Manager installation and make modifications to the configuration
- Examine a list of accessible protection keys; retrieve all Feature data for a specific protection key
- Detach a protection key from one computer and attach it to a different computer
- Apply a V2C file

Sentinel Admin API is incorporated into Sentinel LDK ToolBox. The online help for ToolBox includes descriptions of the API functions and the XML templates required to work with the API.

(New for 6.3) Interfaces for Sentinel Admin API for Java, .NET, and C++ are available.

Sentinel EMS Now Provides Custom Reports

(New for 6.3) The Sentinel EMS Reports facility now provides you with the ability to produce reports with valuable business information, based on an SQL query of data in the Sentinel EMS database. With this tool, managers can obtain data for analyzing how their software is used and the purchasing preferences of their customers. (This functionality requires a Reporting Module license.)

Sentinel Protection Key Memory Now Supports UTF8 Encoding

You can now write UTF8-encoded data to the memory space in Sentinel protection keys. This enables you to fit more data into the existing memory space.

Note Regarding Support for Windows 8 and OS X 10.8

Microsoft Windows 8 and Mac OS x 10.8 are *not* supported in Sentinel LDK v.6.3. However, SafeNet plans to announce support for these operating systems in the coming weeks and to release the necessary updates to Sentinel LDK.

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 already have a Sentinel Master key and want to create license updates for Sentinel HL (Driverless configuration) keys will need to obtain a new Master key. This new Master key should be used in parallel with your existing Master key. (It is not necessary to introduce this new 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 Master key.

ISVs who already have a Sentinel Developer key 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 Developer key. This new Developer key should be used in parallel with your existing Developer key. (It is not necessary to introduce this new Developer key.) For more information, contact your SafeNet sales representative.

Licensing API

The **Run-time API** is now referred to in product documentation as the **Licensing API**.

A new function called **hasp_transfer()** has been added to the API. This function is used both to detach the license for a Product from a Sentinel SL key or to removes a Sentinel SL key from its host machine and prepares it to be transferred ("rehosted") to a target machine.

(New for 6.3) In the Licensing API, the manner in which protection keys are specified for `<hasp>` `<type>` for the login scope or for the **hasp_get_info()** function has been changed: **HASP-SL-AdminMode** and **HASP-SL-UserMode** are now specified as **HASP-SL**. However, the values **HASP-SL-AdminMode** and **HASP-SL-UserMode** are still supported for backward compatibility.

HASP SL Keys Are Now Sentinel SL Keys

HASP SL keys are now referred to in the user interfaces and in the documentation as **Sentinel SL keys**. There is no functional difference between HASP SL keys and Sentinel SL keys.

Master Wizard

The option in the Master Wizard to download merged libraries is not supported in the current release of Sentinel LDK.

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.
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.

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.
Migration Guide: Sentinel HASP to Sentinel LDK	Describes how to migrate from Sentinel HASP to Sentinel LDK. Describes how to migrate your Business Studio Server database to a Sentinel EMS database. This guide also describes the Business Studio Server API for Sentinel EMS.
Additional Migration Guides	<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 <p>Migration Guides will be available at:</p> <p>http://www.safenet-inc.com/SentinelLDK/MigrationGuides</p>
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.)



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.

Online 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, License Generation, and Admin APIs. 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.

Supported Platforms

To ensure that you have the most comprehensive and up-to-date list of supported platforms, go to: <http://sentinelcustomer.safenet-inc.com/platformsupport/>

Known Issues and Workarounds

The known issues in Sentinel LDK v.6.3 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>

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>

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&statId=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>

Sentinel LDK Runtime Environment and Customer Tools

Ref	Issue
12506	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.
14827	<p>Given the following situation:</p> <p>A Product is protected by a Sentinel SL protection key and allows concurrency.</p> <p>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	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.
140898	Under the Linux operating system, Sentinel License Manager does not support the IPV6 network protocol.
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
170463	<p>When the user attempts to install MicroSoft Office 2010 on a computer that contains the Run-time Environment, the installation fails and displays the following error:</p> <p>Error 1406. Setup cannot write the value Assembly to the registry key Software\Classes\CLSID\{0006F024-0000-0000-C000-000000000046}\InprocServer32\14.0.0.0.</p> <p>Verify that you have sufficient permissions to access the registry or contact Microsoft Product Support Services (PSS) for assistance.</p> <p>Workaround:</p> <p>Disable the License Manager, install Microsoft Office, and then re-enable the License Manager as follows:</p> <ol style="list-style-type: none"> 1. Start the Registry Editor (Start > Run > Enter Regedit.) 2. Go to "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\aksfridge" 3. Change the value of "Start" from 2 to 4. 4. Restart the computer. (The License Manager is disabled.) 5. Install Microsoft Office. 6. Start the Registry Editor. 7. In the key described above, change the value of "Start" from 4 to 2. 8. Restart the computer. (The License Manager is enabled.)

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	<p>(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.</p>

Ref	Issue
143551	<p>When a 32-bit overlay supported application is protected using Envelope and then executed under a 64-bit Windows operating system, the application fails or does not work, although the application executes successfully under a 32-bit Windows operating system.</p> <p>Workaround: This application should only be run under a 32-bit Windows operating system.</p>
173378	<p>A win64 application that is protected using Sentinel LDK Envelope with the Data Encryption facility enabled may cause the operating system to crash.</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. Check the SafeNet website periodically for an updated version of the Envelope that resolves this issue.</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>
91963 (CASE 20)	<p>When a (vendor) developer attempts to create a shared object file that links to the Sentinel LDK shared object file <code>libhasp_linux_batchCode.so</code>, 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 <code>-fPIC</code> flag).</p> <p>Workaround: You can obtain a version of the Sentinel Licensing API that was compiled with the <code>-fPIC</code> flag. For more information, contact Technical Support.</p>

Ref	Issue
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 <code>SUSPEND_THREADS</code>. 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 <code>SUSPEND_THREADS</code> 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>
95269	<p>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.</p>
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>

Ref	Issue
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>
None	<p>If protected JEE applications from multiple vendors are deployed on a single Tomcat server, the applications will not operate.</p>

.NET

Ref	Issue
89873	<p>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.</p>

Sentinel LDK Envelope and Data Encryption for Mac OS X

Ref	Issue
11416	<p>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.</p>
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>

Ref	Issue
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>