

# Sentinel<sup>®</sup>LDK

Sentinel LDK v.7.2  
Release Notes



## Document Revision History

Part number 007-012691-001, Rev A

Build 1409-2

## Disclaimer and Copyrights

Copyright © 2014, SafeNet, Inc. All rights reserved. <http://www.safenet-inc.com/>

We have attempted to make these documents complete, accurate, and useful, but we cannot guarantee them to be perfect. When we discover errors or omissions, or they are brought to our attention, we endeavor to correct them in succeeding releases of the product. SafeNet, Inc. is not responsible for any direct or indirect damages or loss of business resulting from inaccuracies or omissions contained herein. The specifications contained in this document are subject to change without notice.

SafeNet<sup>®</sup> and Sentinel<sup>®</sup> are registered trademarks of SafeNet, Inc. All other product names referenced herein are trademarks or registered trademarks of their respective manufacturers.

# Contents

---

About This Document .....	5
Product Overview .....	5
Sentinel Vendor Keys .....	6
Obtaining Support .....	6
Help Us to Improve Sentinel LDK .....	6
What's New in Sentinel LDK v.7.2? .....	7
Support for V-Clock in Sentinel EMS .....	7
Generic Support for Sentinel SL Under VM Live Migration Solutions .....	7
Additional Enhancements to Sentinel EMS .....	8
Enhancements to Sentinel Cloud Licensing .....	8
Enhanced Documentation for Sentinel Licensing API and Sentinel Admin API .....	8
What's Changed in This Release? .....	8
AccessCode Parameter Removed From Envelope Command-line Documentation .....	8
Changes to Installation Documentation for Sentinel EMS .....	9
Language Pack Considerations For Sentinel LDK v.7.2 .....	9
Supported Platforms for Sentinel LDK – End Users and Vendors .....	9
Sentinel LDK Documentation .....	10
Documents .....	10
Sentinel Cloud Licensing Documents .....	12
Help Systems - Sentinel LDK and Sentinel EMS User Interfaces .....	12
Online Help Systems – Sentinel LDK APIs .....	13
Software and Documentation Updates .....	14
Known Issues and Workarounds .....	15
Sentinel Vendor Suite Installation .....	15
Sentinel EMS .....	15
Sentinel Cloud Licensing .....	16
Sentinel LDK Master Wizard .....	17
Sentinel LDK Runtime Environment, License Manager and Customer Tools .....	17
Sentinel LDK ToolBox .....	19
Sentinel LDK Envelope for Windows Platforms .....	20



# Sentinel LDK v.7.2 - 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/API\\_Documentation\\_Information.aspx](http://sentinelcustomer.safenet-inc.com/API_Documentation_Information.aspx)

## Product Overview

Sentinel LDK (*Sentinel License Development Kit*) provides software publishers with strong anti-piracy and intellectual property 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—Evolve Often™* — this unique design philosophy enables you to fully separate your business and Protection (engineering) processes in order to maximize business agility while ensuring optimum use of your employee time and core competencies, resulting in faster time to market.
- *Cross-Locking™* — the technology that supports the *Protect Once—Deliver Many—Evolve Often* 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.

**Important:** Keep these keys safe and only allow trusted personnel to use them. The Master key is especially valuable because it allows the generation of licenses. Both vendor keys contain secrets and enable the use of tools and API libraries which can access the memory of user keys and use of the cryptographic functionalities.

## 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](mailto: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/](http://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](mailto:ldkfeedback@safenet-inc.com)

## What's New in Sentinel LDK v.7.2?

This section describes the main features and enhancements that are introduced in this release of Sentinel LDK.



This release of Sentinel LDK is provided as a patch that must be applied to Sentinel LDK v.7.1. To upgrade to Sentinel LDK v.7.2, new customers must first obtain and install Sentinel LDK v.7.1, and then apply this patch.

This release does not contain any upgrades for Mac OS X or for Linux.



If you require a language pack for your operation, do not install the patch for Sentinel LDK v.7.2 before you review the information in "[Language Pack Considerations For Sentinel LDK v.7.2](#)" on page 9.

### Support for V-Clock in Sentinel EMS

In the past, the use of a virtual clock for time-based licenses was only available for applications protected with a Sentinel SL key. Sentinel LDK v.7.1 introduced support for the use of a virtual clock (V-Clock) for applications that are protected using Sentinel HL (Driverless configuration) keys. However, support was only available using Sentinel License Generation API or the ToolBox utility interactive simulation of this API.

Support for V-Clock is now provided in Sentinel EMS. The following functions are provided:

- A protected application may become disabled if the application detects that the system time has been changed to an earlier time date. If this occurs, you can use the Check In C2V screen from the Entitlements page to generate a V2C file that clears the Time Tamper state in the protected application.
- You can now use Sentinel EMS to create and manage time-based licenses for a Sentinel HL (Driverless configuration) keys that do not have a onboard real-time clock. The license is based on V-Clock. For information on the differences between V-Clock and the real-time clock in Sentinel HL Time keys and Sentinel HL NetTime keys, see the *Sentinel LDK Software Protection and Licensing Guide*.
- When you check in a C2V file in Sentinel EMS, you can now view the state of V-Clock on the user's machine.
- When you view Master Key information in Sentinel EMS, you can now see the state of the V-Clock license on the key.

### Generic Support for Sentinel SL Under VM Live Migration Solutions

This solution allows the guest VM to freely migrate between different physical hosts, while allowing uninterrupted license enforcement. Unique to Sentinel LDK, the use of VM live migration does not cause the license to be incorrectly marked as cloned (and thus disabled). Furthermore, when using Admin-mode SL, the licenses are constantly monitored for duplicate hostnames and are only available for use when a single instance of a given hostname is present.

Support for Sentinel SL under VM Live Migration was introduced in Sentinel LDK 7.1 and was only available using Sentinel License Generation API. Starting with this release of Sentinel LDK, the solution for VM live migration is available in Sentinel EMS.

### Additional Enhancements to Sentinel EMS

The following functional enhancements have been implemented in Sentinel EMS:

- You now have the option of hiding non-excludable Features when you create an entitlement. This simplifies the display for Products that have a large number of such Features.
- In the Sentinel EMS Entitlements screen you can now search for activated entitlements based on Key ID.
- It is now possible in Sentinel EMS to select a clone protection scheme, including the FQDN protection scheme.
- You can now select multiple C2V files to be checked in as a single operation in Sentinel EMS.



For Internet Explorer, this operation is only supported in version 10 and later.

### Enhancements to Sentinel Cloud Licensing

- In Sentinel EMS, a new field has been added for on-premise entitlement-level caching – **Max Registration Count**. The software vendor can use this field to specify the maximum number of machines that can be registered for a specific entitlement at any one time.
- In Sentinel EMS (both Vendor Portal and Customer Portal), a vendor or customer can now see the user name or machine name of users who are using an on-premise entitlement-level license. This enables the management of situations where additional licenses are required but are not available.

### Enhanced Documentation for Sentinel Licensing API and Sentinel Admin API

The reference guides provided for Sentinel Licensing API and Sentinel Admin API now document the C, .NET and Java interfaces for these APIs.

## What's Changed in This Release?

This section describes significant changes to existing functionality that have occurred in this release of Sentinel LDK.

### AccessCode Parameter Removed From Envelope Command-line Documentation

The parameter `--accesscode` has been removed from the table of command-line options for Sentinel LDK Envelope in the *Sentinel LDK Software Protection and Licensing Guide*. This parameter is not supported for Sentinel LDK.



## Changes to Installation Documentation for Sentinel EMS

The next version of the *Sentinel LDK Installation Guide* will be corrected to contain the following requirement for installing Sentinel EMS:

Sentinel EMS Service must be installed on a machine whose computer name does not exceed 15 characters.

## Language Pack Considerations For Sentinel LDK v.7.2

A language pack is not planned for Sentinel LDK v.7.2.

If you plan to install the language pack for Sentinel LDK v.7.1 when it is released (or if you have already installed this language pack), note the following:

- When you install the patch for v.7.2, the language for Sentinel LDK user interfaces and documentation reverts to English (if a language pack was already installed).
- After installing the patch for v.7.2, you can install (or re-install) the language pack for v.7.1. The localization will apply for all Sentinel EMS and Sentinel LDK user interfaces. Help systems and user documentation will appear only in English. However, you can find the translated EMS documentation from v.7.1 in the location listed below. (The differences between v.7.1 documentation and v.7.2 documentation are not significant.)

Translated documentation for Sentinel EMS from Sentinel LDK v.7.1 can be found in the following locations (after installing the language pack for v.7.1):

`%EMS_HOME%\EMSServer\webapps\ems\Docs`

## Supported Platforms for Sentinel LDK - End Users and Vendors

For information on supported platforms, refer to the *Release Notes for Sentinel LDK v.7.1*.

Note the following changes:

- This release of Sentinel LDK is provided with Sentinel LDK Run-time Environment version 6.64.


## 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:

- where Sentinel LDK is installed, under:  
     ...\**Program Files (x86)\SafeNet Sentinel\Sentinel LDK\Docs\**
  - where Sentinel EMS is installed, under:  
     ...\**Program Files (x86)\SafeNet Sentinel\Sentinel EMS\EMSServer\webapps\ems\Docs\**
- (For Win32, under \**Program Files\...**)

Document	Description
Sentinel LDK Installation Guide	<p>Details the prerequisites and procedures for installing Sentinel LDK Vendor Tools, Sentinel EMS Server, and the Run-time Environment.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  Sentinel LDK v.7.2 is provided as a patch to v.7.1. Therefore, this book was not reissued for Sentinel LDK v.7.2         </div>
Sentinel LDK Software Protection and Licensing Guide	<p>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.</p>
Sentinel LDK Software Protection and Licensing Tutorials	<p>Guide you through the basic procedures of Sentinel LDK to familiarize you with the applications and their functionality.</p> <ul style="list-style-type: none"> <li>• The Demo Kit tutorial is for vendors who wish to evaluate Sentinel LDK.</li> <li>• The Starter Kit tutorial is for vendors who have just purchased Sentinel LDK.</li> </ul> <p>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 only use the Sentinel LDK APIs to handle licensing and protection.</p>
Sentinel LDK Quick Start Guides	<p>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.</p>

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 Guides for Migrating to Sentinel LDK	<p>These guides describe how to migrate to Sentinel LDK from:</p> <ul style="list-style-type: none"> <li>- Hardlock</li> <li>- SmartKey</li> <li>- Sentinel SuperPro</li> <li>- HASP HL</li> <li>- HASP4</li> <li>- Sentinel Hardware Keys</li> </ul>
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.

## Sentinel Cloud Licensing Documents

The documentation in the table that follows describes how to work with Sentinel Cloud Licensing. This documentation is provided with the Sentinel Cloud Licensing installer.

Document	Description
Sentinel Cloud Run-time Guide	Sentinel Cloud Run-time API reference (Java, .NET, and C)
Sentinel Cloud - Quick Start Guide	Document to help you quickly start with Sentinel Cloud
Sentinel Cloud Services Installation Guide	Describes how to install Sentinel Cloud Services
Sentinel Cloud Connect Web Services Guide	Reference for using the Sentinel Cloud Connect Web services
Sentinel Cloud Run-time Java Demo Application ReadMe	Explains how to use the Sentinel Cloud Services Demo Application
Sentinel Cloud Run-time .NET Reference Application ReadMe	Sample for using the Cloud Runtime APIs written in .NET
Sentinel Cloud Run-time C Reference Application ReadMe	Sample for using the Cloud Runtime APIs written in C
Sentinel Cloud Connect Web Services Python Sample ReadMe	Sample for integrating Sentinel Cloud Connect Web services in Python application

## Help Systems - Sentinel LDK and Sentinel EMS 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 (Separate versions for Windows and for Mac)	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.

Online Help System	Description
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:

- where Sentinel LDK is installed, under:here Sentinel LDK is installed, under:  
**...\Program Files (x86)\SafeNet Sentinel\Sentinel LDK\API\**

(For Win32, under\Program Files\...)

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. Separate references are provided for C, .NET and Java.
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 <b>index.html</b> menu under <b>...\Program Files (x86)\SafeNet Sentinel\Sentinel EMS\EMSServer\webapps\ems\Docs\</b> (For Win32, under \Program Files\...)

Sentinel LDK API	Description
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 Reference	Provides the functionality available in Admin Control Center and Sentinel License Manager in the form of callable API functions. Separate references are provided for C, .NET and Java.

## 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.7.2 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: <a href="http://support.microsoft.com/kb/925336">http://support.microsoft.com/kb/925336</a></p>
171812	<p>In a machine with an Nvidia graphics card and AMD64 processor, installation of Sentinel EMS may stop responding after the installer displays the "installed successfully" screen. At this point, installation of Sentinel EMS has succeeded, but the <b>Finish</b> button is not displayed, and the installer cannot continue with the installation of Sentinel Vendor Suite (if you requested to install it).</p> <p><b>Workaround:</b> 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><b>Workaround:</b> 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
EMSLDK-87 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><b>Workaround:</b> Change the password for the database so that it does not contain non-English letters.</p>

Ref	Issue
167309	In the RUS Branding screen, the list field for selecting the font does not work correctly in the Google Chrome browser. <b>Workaround:</b> Use a different browser to edit the RUS Branding screen.
182566	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.
EMSLDK-4265	On MAC machines with default settings, the Run-time Environment (RTE) Installer generated from Sentinel EMS does not work. <b>Workaround:</b> <ul style="list-style-type: none"> <li>■ The end user needs to reduce the overall security of the MAC machine before using this RTE installer.</li> </ul> <p style="text-align: center;"><i>OR</i></p> <ul style="list-style-type: none"> <li>■ Sign the RTE installer (see ‘Signing the RTE Installer’ in the <i>Sentinel EMS User’s Guide</i>).</li> </ul>

### Sentinel Cloud Licensing

Ref	Issue
EMSLDK-5193	For on-premise deployment: If a user accesses an application that uses Entitlement Level caching, that user cannot access any additional applications that also use Entitlement Level caching from the same computer.
EMSLDK-5934	Entitlement-level Caching: Sentinel Cloud Licensing is unable to consume a license if the end user machine contains multiple hard disk drives. Error 1021 is generated.

### Installer

Ref	Issue
	When you upgrade to a higher version of Cloud Services, the installer uninstalls the SDK from the custom location and does the installation at the default location. SafeNet recommends that you uninstall the earlier versions before you install a latest version of Cloud Services.



## Billing

Ref	Issue
	The billing data provided in the customer login is the partially processed data. This data is used to produce the final bill, and should not be considered as the final bill.
	Any exception encountered while retrieving billing details are logged in the <b>Billing.xml</b> file, but not displayed in Sentinel Cloud EMS GUI.

## 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&gt; su Password: linux-g09j:/home/qctest/Desktop/Linux/VendorTools/VendorSuite # ./masterhasp ** Glib-GIO:ERROR:gdbusconnection.c:2279:initable_init: assertion failed: (connection-&gt;initialization_error == NULL) Aborted </pre> <p>This appears to be the result of a known issue in OpenSUSE.</p> <p><b>Workaround:</b> 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, License Manager 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.
140898	Under the Linux operating system, Sentinel License Manager does not support the IPV6 network protocol.

Ref	Issue
180256	When a computer name contains UTF-16 characters, Admin Control Center displays the short name for the computer (similar to Windows Explorer). Similarly, the <b>sntl_admin_get</b> function in Admin API returns the short name.
182646	<p>After Windows 7 is upgraded to Windows 8, the user may not be able to use existing SL licenses or to install new SL licenses.</p> <p><b>Workaround:</b> After you upgrade from Windows 7 to Windows 8, reinstall the Run-time Environment</p>
LDK-2471	<p>Sentinel Licensing API: On a computer with the Nvidia chip set GeForce 7025/nForce 630a, and where the CPU is AMD Athlon 64 X2, the <code>hasp_read</code> and <code>hasp_encrypt</code> functions may fail with error 39, <code>HASP_BROKEN_SESSION</code>. This problem only exists with Sentinel HL keys with Firmware version 3.25.</p> <p><b>Workaround 1:</b> On the computer described above, when error 39 is returned, call the <code>hasp_read</code> or <code>hasp_encrypt</code> function again. It is not necessary to call <code>hasp_login</code> again.</p> <p><b>Workaround 2:</b> Use Sentinel HL keys with Firmware version 4.2x.</p>
LDK-4782	<p>&lt;writeconfig&gt; in Sentinel Admin API automatically writes values for many parameters to the INI file that are not relevant for the Integrated License Manager. When the Integrated License Manager processes the INI file, it rejects these parameters and creates an error log for each irrelevant entry.</p> <p><b>Workaround:</b> These errors are normal and should be ignored.</p>
LDK-4867	<p>Given the following circumstances:</p> <ul style="list-style-type: none"> <li>○ A Sentinel HL (Driverless configuration) key is connected to one of the following: <ul style="list-style-type: none"> <li>■ a USB host controller in USB 3.0 compatibility mode on a VMware Workstation 9.0.2 or 10.0.1 platform</li> <li>■ a USB host controller in "xHCI" mode on a VMware ESXI 5.1 platform</li> </ul> </li> <li>○ A protected application is started on the VMware platform.</li> </ul> <p>The protected application does not execute, and an error message is displayed.</p> <ul style="list-style-type: none"> <li>○ If the Run-time Environment is present on the VMware platform, the error message "Sentinel Session is broken (H0039)" is displayed.</li> <li>○ If the Run-time Environment is not present on the VMware platform, the error message "Feature not found" is displayed.</li> </ul> <p>In either case, the HID key is shown as "USB Input Device" in the Device Manager (under "Human Interface Devices").</p> <p><b>Workaround:</b></p> <ul style="list-style-type: none"> <li>○ For VMware Workstation 9.0.2 or 10.0.1: Switch the USB controller to USB 2.0 compatibility mode.</li> <li>○ For VMware ESXI 5.1: Switch the USB controller to "EHCI+UHCI" mode.</li> </ul>

Ref	Issue
LDK-5798	<p>A warning message is displayed when you attempt to open the <b>haspds.msm</b> merge module in Wise 7.0 SP2 or Wise Installation Studio 7.0. The message states: <b>This merge module does not meet the Windows Installer SDK merge module naming convention. Do you want to fix it automatically? (Yes or No)</b></p> <p><b>Workaround:</b> Do one of the following:</p> <ul style="list-style-type: none"> <li>◦ Dismiss the warning by selecting the “No” option.</li> <li>◦ Avoid the warning. Build the <b>haspds.msm</b> file using the <b>haspds.wsm</b> project that is available on the Installation DVD.</li> </ul>
LDK-2827	(Linux) Under OpenSUSE, it may be necessary to manually install the libpng library in order to run the linux_bounce sample application.
10055	<p>(Linux) When launching the C binary sample: If an error message is displayed, stating that shared libraries are not found, copy the HASP <b>.so</b> library to <code>usr/lib</code> or <code>usr/local/lib</code>. Alternatively, force the search for the library in the current directory when you run the sample, by using the command: <code>LD_LIBRARY_PATH=. ./hasp_demo</code></p> <p><b>Note:</b> When using the command above, ensure that you insert a space between <code>LD_LIBRARY_PATH=.</code> and <code>./hasp_demo</code></p>
10109	<p>(Linux) When running the Master wizard in Red Hat EL 5.1: If the wizard displays an error message stating that <b>libssl.so.0.9.8</b> was not found, create the following symbolic links:</p> <pre>ln /usr/lib/libssl.so /usr/lib/libssl.0.9.8 ln /usr/lib/libcrypto.so /usr/lib/libcrypto.0.9.8</pre>
10309	(Linux) When using Sentinel LDK Envelope, ELF executables that contain a GNU_RELRO segment cannot be protected unless the executable is linked using the linker switch: <code>-z norelro</code>
11138	(Linux) If the application to be protected uses <code>wprintf</code> for its output, the Envelope switch <code>--wchar (console_configuration=2)</code> must be used.
142107	(Linux) The Linux activation demo fails to run under Red Hat EL 5.4 x86_64.

### Sentinel LDK ToolBox

Ref	Issue
183073	In the current release, Sentinel LDK ToolBox does not support the new <code>sntl_admin_context_new_scope()</code> 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"> <li>■ Use the <b>Save As</b> option from the Envelope <b>File</b> menu to save the project to the new location. (You can afterwards delete the original project file.).</li> <li>■ Copy the directory structure containing both the project file and the related unprotected binary to the new location.</li> </ul>
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>
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.</p> <p>This is Microsoft limitation. See the related article link:  <a href="http://support.microsoft.com/kb/2606439">http://support.microsoft.com/kb/2606439</a></p> <p><b>Workaround:</b> 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><b>Workaround:</b> 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><b>Workaround:</b> 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 <b>New project</b> and provide the path of the Envelope project.</p>

Ref	Issue
185624	<p>In the Protection Settings for a Windows DLL, you cannot select the option <b>User debugger detection</b>.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>Select the option <b>Overwrite default protection settings</b>.</li> <li>Save the project and close Envelope.</li> <li>Restart Envelope.</li> </ol> <p>You can now select the option <b>User debugger detection</b>.</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 <b>libhasp_linux_batchCode.so</b>, error messages similar to the following are displayed:</p> <pre> user@host:~/Desktop/API/Runtime/Java/source&gt; ./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 <b>-fPIC</b> flag).</p> <p><b>Workaround:</b> You can obtain a version of the Sentinel Licensing API that was compiled with the <b>-fPIC</b> 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"> <li>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.</li> <li>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.</li> <li>3. Save the project.</li> </ol>
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 <b>False</b> (although the documentation states that it is set to <b>True</b>). If you attempt to set the value for this property to <b>True</b>, 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 <code>stderr</code> 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><b>Workaround:</b> 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><b>Workaround:</b> 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	<p>The Java Envelope does not support unicode.</p>
180073	<p>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.</p>
180733	<p>The current release of Envelope supports only one protected war file in a given JBOSS 7 Server.</p>
181673	<p>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.</p>
LDK-2490	<p>If the protected application contains code similar to this:</p> <pre data-bbox="386 1108 889 1171">List&lt;User&gt; function_name (Parameter) { ... }</pre> <p>After this method is protected with Java Envelope, Envelope will return a List variable that is not typecasted to the &lt;User&gt; type. This &lt;User&gt; type is another defined class in the same scope.</p>
LDK-2891	<p>The protected Java application directory should be set in the environment variable, or the <b>classpath</b> entry should be in the Manifest file of the original application.</p> <p>In fact, Java Envelope adds an entry for run-time required JAR files in the protected application Manifest file under the <b>classpath</b> tag. If the <b>classpath</b> tag did not exist in the original Manifest file, then these entry will not work. At run time, the protected Java application will search for run-time JAR files from the <b>classpath</b> environment variable. If the application does not find these run-time JAR files, it will throw “Class Not Exception” for these files.</p> <p><b>Workaround 1:</b> Add the current directory path to the <b>classpath</b> environment variable.</p> <p><b>Workaround 2:</b> Modify the Manifest file to add the <b>classpath</b> tag.</p>
None	<p>If protected JEE applications from multiple vendors are deployed on a single Tomcat server, the applications will not operate.</p>

Ref	Issue
LDK-4683	Sentinel LDK Envelope for Java cannot be used to protect applications that use the ModelMap data type. <b>Workaround:</b> To protect such applications, change ModelMap data types to a less strict data type.

### .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.