Sentinel LDK 8.0 and Later
ADDITIONAL KNOWN ISSUES AND WORKAROUNDS

Revision History

Document Number 00-0000000-00 Revision B, 2110-1

Disclaimer and Copyrights

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Preface

This guide supplements the Sentinel LDK Release Notes to describe additional known issues and their workarounds.

Additional Known Issues and Workarounds

Sentinel LDK Installation

Reference	Issue
171812	In a machine with an Nvidia graphics card and AMD64 processor, installation of Sentinel LDK-EMS may stop responding after the installer displays the "installed successfully" screen. At this point, installation of Sentinel LDK-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). **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.
172141	On a machine with a localized operating system, installation of Sentinel LDK-EMS in a directory whose name contains localized characters fails with "Error 1324". **Workaround:** Install Sentinel LDK-EMS in a directory whose name does not contain localized characters.

Sentinel LDK-EMS

Reference	Issue
EMSLDK-87143768	If Sentinel LDK-EMS is configured to work with a remote database that uses a password that contains non-English letters, Sentinel LDK-EMS Service fails to log in successfully to the remote database. **Workaround:** Change the password for the database so that it does not contain non-English letters.
167309	In the RUS Branding screen, the list field for selecting the font does not work correctly in the Google Chrome browser. **Workaround:** Use a different browser to edit the RUS Branding screen.

Reference	Issue
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 LDK-EMS does not work. **Workaround:** Sign the RTE installer (see "Signing the RTE Installer" in the Sentinel LDK-EMS User's Guide).

Sentinel LDK Master Wizard

Reference	Issue
172697	When the Master Wizard is run from the console under Linux, the following warning is displayed: **Qt: Session management error: None of the authentication protocols specified are supported** This message can be ignored. The Master Wizard performs its function correctly.

End Users: Run-time Environment, License Manager, Customer Tools

Reference	Issue
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: `-z norelro`
11138	(Linux) If the application to be protected uses wprintf for its output, the Envelope switch `--wchar` (console_configuration=2) must be used.
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.

Reference	Issue
182646	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. **Workaround:** After you upgrade from Windows 7 to Windows 8, reinstall the Run-time Environment
LDK-2471	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 hasp_read and hasp_encrypt functions may fail with error 39, HASP_BROKEN_SESSION. This problem only exists with Sentinel HL keys with Firmware version 3.25. **Workaround 1:** On the computer described above, when error 39 is returned, call the hasp_read or hasp_encrypt function again. It is not necessary to call hasp_login again. **Workaround 2:** Use Sentinel HL keys with Firmware version 4.x or 6.x.
LDK-4782	<writeconfig> 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. **Workaround:** These errors are normal and should be ignored.

LDK-4867	Given the following circumstances:
	> A Sentinel HL (Driverless configuration) key is connected to one of the following:
	  • a USB host controller in USB 3.0 compatibility mode on a VMware Workstation platform
	  • a USB host controller in "xHCI" mode on a VMware ESXi platform
	> A protected application is started on the VMware platform.
	The protected application does not execute, and an error message is displayed.
	> If the Run-time Environment is present on the VMware platform, the error message "Sentinel Session is broken (H0039)" is displayed.
	> If the Run-time Environment is not present on the VMware platform, the error message "Feature not found" is displayed.
	In either case, the HID key is shown as "USB Input Device" in the Device Manager (under "Human Interface Devices").
	
	Workaround:
	> For VMware Workstation: Switch the USB controller to USB 2.0 compatibility mode.
	> For VMware ESXi: Switch the USB controller to "EHCI+UHCI" mode.

Sentinel LDK ToolBox

Reference	Issue
183073	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

Reference	Issue
92503	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. You can use either of these workarounds to move an Envelope project file to a new location: > 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.
178432	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 a Microsoft limitation. See the related article link: http://support.microsoft.com/kb/2606439 **Workaround:** Manually open the help files after copying them from **\Windows\Installed\VendorTools\VendorSuite\translations\6.4** on the DVD to a location on your local hard drive whose path name does not contain GB 18030 or Unicode characters. *OR* Install the Vendor Suite in a location whose path name does not contain GB 18030 or Unicode characters.

Reference	Issue
182883	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. **Workaround:** **>** Do not use multibytes UTF-8 characters in the logon user name. *OR* **>** In the Envelope Settings screen (Advanced tab), select the option to use Legacy Envelope engines.

Java

Reference	Issue
11043	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.
91963 (Case 20)	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: 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' cannot be used when making a shared object; recompile with –fPIC HASPJava.o: could not read symbols: Bad value collect2: ld returned 1 exit status This problem occurs because the Sentinel Licensing (Run-time) API was not compiled to allow position-independent code generation (using the **–fPIC** flag). **Workaround**: You can obtain a version of the Sentinel Licensing API that was compiled with the **–fPIC** flag. For more information, contact Technical Support.

Reference	Issue
93464	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 Envelope command-line utility with these projects.) To update an existing Envelope project (v.5.10 or earlier) to v.6.0 or later: 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	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.
95269	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.

Reference	Issue
95491	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 *IllegalAccessError* exception during runtime. 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. 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.
104179	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. **Workaround:** In the protected application, call a Run-time API function to open a permanent session to the Feature for which concurrency is restricted.
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	Sentinel LDK 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.

LDK-2490	If the protected application contains code similar to this:
	`List<User> function_name (Parameter)`
	`{ ... }`
	After this method is protected with Java Envelope, Envelope will return a List variable that is not typecasted to the <User> type. This <User> type is another defined class in the same scope.

None	If protected JEE applications from multiple vendors are deployed on a single Tomcat server, the applications will not operate.
LDK-4683	Sentinel LDK Envelope for Java cannot be used to protect applications that use the ModelMap data type. **Workaround:** To protect such applications, change ModelMap data types to a less strict data type.

.NET

Reference	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 for Linux

Reference	Issue
LDK-4545	Applications that do not link any object dynamically cannot be protected.

Sentinel LDK Envelope and Data Encryption for macOS

Reference	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	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 **Workaround:** Do not use SDL or any other Library/Framework that relies on deprecated System Frameworks.

Reference	Issue
151020	Given the following situation: > 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. Encrypted files may become corrupted, resulting in data loss. **Workaround:** Handle data encryption/decryption manually without using the Data Encryption facility. You can use the hasp_encrypt and hasp_decrypt functions in the Sentinel Licensing API. For examples that use these functions, see the Runtime samples provided for Mac. Check the Thales website periodically for an updated version of the Envelope that resolves this issue.
174314	When protecting a Mac application, the following error message may be displayed: "Insufficient GAP for protection. Processing aborted" If this occurs, do one of the following: > For Realbasic applications: Use a newer version of Realbasic. In laboratory tests at Gemalto, 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. 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. To add the **headerpad** argument in the project settings in Xcode, enter the following string under **Other Linker Flags**, for both **Debug** and **Release** builds: -Wl,-headerpad,*size* **Notes:** > In the string above, "Wl" is capital "W", lowercase "L". > Some projects do not use **ld** directly, but link the application via **gcc** or **clang**.
183388	An application may fail to run if it has been built with LDK static libraries using the Dead Code Stripping linking option. **Workaround:** Do not use the Dead Code Stripping option in linking.