



# Sentinel RMS SDK v9.3.0

## Release Notes for Linux (32-bit and 64-bit)

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# Product Description

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Sentinel RMS is a software licensing SDK for your applications. It increases revenue by authorizing the use of your applications and offers a variety of licensing schemes to boost your product sales. It also provides tools that system administrators can use to track and manage licenses in a network.

When SCL add-on is combined with the license enforcement features of Sentinel RMS and the entitlement management features of Sentinel EMS, it makes a complete solution that provides the benefits of cloud-connected licensing to applications deployed in the customer's network or hosted online. Usage collection and reporting is the most significant advantage obtained with cloud-connected licensing.

## About This Document

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This document contains details about the new features, problems corrected, and installation of the v9.3.0 of the Sentinel RMS SDK. The last major release was Sentinel RMS v9.2.0.

## New Features and Enhancements

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This section provides details about the new features and enhancements included in the RMS v9.3.0 release.

### Support for Returning a Commuter Authorization

In this release, a new workflow is introduced to return a commuter authorization for connected (to the License Manager) and disconnected users. This feature is also supported for repository licenses.

If the local commuter code is checked-out using Traditional API till RMS v9.2.1 (or earlier), you should return the same using Traditional API, before requesting a commuter code using Unified APIs (v9.3.0 and later).

The following enhancements are included as part of this workflow:

#### Enhancements in the `sntl_licensing_transfer` API

In this release, a new action tag `<returnCommuter>` is introduced to generate an Acknowledgment string for returning the commuter authorization, related to a particular feature and version.

#### Enhancements in the `sntl_licensing_install` API

In this release, the `sntl_licensing_install` API is enhanced to install the Acknowledgment string generated using the `sntl_licensing_transfer` API, to return the commuter authorization.

For more information, see the Commuter Licenses chapter of the Sentinel RMS SDK Developer's Guide and API Reference Guide.

## Unified API Enhancements

The following enhancements related to Unified API are included in this release:

### Support for Configuring the Licensing Library

In this release, a new API, *sntl\_licensing\_configure*, is introduced for configuring the licensing library. The supported licensing library configurations include:

- Customizing the default standalone license filename/path
  - Use the `SNTL_ATTR_CONFIG_LSERVRC_FILE` attribute for customizing the filename/path of the default standalone license file.
- Enabling trace writer file for troubleshooting.
  - Set the client trace level required by the client trace writer file using the `SNTL_ATTR_CONFIG_TRACE_LEVEL` attribute (mandatory).
  - Set the trace writer file using the `SNTL_ATTR_CONFIG_TRACE_WRITER_FILE` attribute.

### Support for Customized Trace Writer Function

In this release, a new callback type `SNTL_CALLBACK_TYPE_CUSTOM_TRACE_WRITER`, is added to the `sntl_licensing_register_callback` API. This callback type is used for registering a trace writer function that handles the trace messages generated at run-time.

### Support for Adding Contact Server List

In this release, the following attributes are added to the `sntl_licensing_app_context_new` API:

Attribute Key	Purpose
<code>SNTL_ATTR_APPCONTEXT_CONTACT_SERVER_LIST</code>	This attribute is used for setting the contact server list.
<code>SNTL_ATTR_APPCONTEXT_ENABLE_EXHAUSTIVE_BROADCAST</code>	This attribute is used to specify the discovery mechanism for License Managers.

### Support for Returning the Status Information

This section briefly describes the various enhancements implemented in the `sntl_licensing_get_info` API:

#### Added New Query Types

In this release, the `sntl_licensing_get_info` API has been enhanced to provide the following additional information:

- `lastStatusInfo` - Provides the status code and status message returned by the last-called Unified API, related to an application context.
- `statusInfo` - Provides the status message corresponding to a particular status code specified in the scope XML.

#### New XML Response Fields for Existing Query Types

In this release, the following XML response fields are introduced in the `appContextInfo` query type of the `sntl_licensing_get_info` API:

- `enableExhaustiveBroadcast` - The discovery mechanism for License Managers.
- `contactServerList` - The list of License Managers.

## Enhancements in Java Interface for Unified APIs

In this release, the Java interface for Unified APIs is also updated to reflect the enhancements listed in the section [Unified API Enhancements](#).

## Introduced 64-bit Libraries for PT Generation

The 64-bit permission ticket (PT) generation library is now available in the Sentinel RMS SDK. The following table provides a detailed description regarding the same:

RMS Libraries	Type	Location (in RMS SDK)
PT generation library	Static - liblsptgen64.a	<installdir>/<version>/development/c/lib/x86_64/static
	Shared - liblsptgen64.so	<installdir>/<version>/development/c/lib/x86_64/shared

## Support for 64-bit Utilities

In this release, the following 64-bit utilities are included in the Sentinel RMS SDK installation:

Utility	Path (in Sentinel RMS SDK)
echoid64	<install_dir>/<version>/redistributable/tools
echoid64	<install_dir>/<version>/redistributable/tools
lcommute64	<install_dir>/<version>/redistributable/tools
lsclean64	<install_dir>/<version>/redistributable/tools
lsdecode64	<install_dir>/<version>/redistributable/tools
lslic64	<install_dir>/<version>/redistributable/tools
lsmo64	<install_dir>/<version>/redistributable/tools
lspool64	<install_dir>/<version>/redistributable/tools
lsrvdown64	<install_dir>/<version>/redistributable/tools
lsusage64	<install_dir>/<version>/redistributable/tools
lsusage64	<install_dir>/<version>/redistributable/tools
lswhere64	<install_dir>/<version>/redistributable/tools
rcommute64	<install_dir>/<version>/redistributable/tools
ulscod64	<install_dir>/<version>/redistributable/tools
lscgln64	<install_dir>/<version>/vendorTools
vusage64	<install_dir>/<version>/vendorTools

## Support for Controlling the Persistence File Permissions

In this release, a new workflow is added to allow customization of persistence file permissions. The administrator can create the required persistence directories before using the client application (or before stand-alone persistence initialization) / License Manager start-up. It is important to note that:

- The parent directory permissions are automatically cascaded to the sub directories and files under these directories for new installations.
- The system administrator should set the required file permissions recursively if there is need of reassigning permissions.

For more information, contact [Technical support](#).



**Note:** Make sure that the License Manager and licensed application are not running while assigning these permissions

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## Problems Corrected in This Release

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In this release, the following problems are corrected:

ID	Problem Description
SM-11199	The License generation gives no result on Ubuntu 16.04.
SM-15406	Unexpected error (75) while checking out UTC based commuter license.
SM-16257	The sntl_demo sample does not handle the NULL version case.
SM-16774	Incorrect code snippet link in the PDF.
SM-16942	The lscgen - Global Defaults File section provides incomplete list (and sequence) of fields included in the Codeopts file for generating license.
SM-18417	RMS documentation inaccuracies.
SM-18418	Documentation enhancement request.
SM-19149	Server customized for hooking crashes on getting hooking request.
SM-21493	System wide locks need to be acquired during grace persistence initialization and clean-up.
SM-23365	Application linked with openssl and RMS library gets crashed if RMS library is defined first in the linking order.
SM-28097	Memory leaks with v18 license.
SM-28369	Query about specifying Network addresses in license reservation file.

# Installation Information

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This section contains information about the installation of RMS SDK.

## Before You Install

Before you begin installing the RMS SDK, note the following:

- Administrator Privileges - You must have administrator privileges to successfully install all the components.
- RMS SDK Serial Number - You require a valid serial number provided by Gemalto. The installer prompts you to enter the serial number provided to you.



## System Requirements

To use the Sentinel RMS, the minimum hardware and software requirements are:

Hardware Requirements	Software Requirements
<p><b>Processors:</b> x86 processors for 32-bit x86-64 processors for 64-bit</p>	<p><b>Operating Systems and Compilers:</b></p> <ul style="list-style-type: none"><li>• <b>Red Hat Enterprise Linux 6.x (Kernel v2.6.32)</b><ul style="list-style-type: none"><li>– gcc (32 and 64-bit) v4.4.7</li><li>– glibc v2.12</li></ul></li><li>• <b>Red Hat Enterprise Linux 7.x (Kernel v3.10.0-121)</b><ul style="list-style-type: none"><li>– gcc (64-bit) v4.8.2 20140120</li><li>– glibc v2.17</li></ul></li><li>• <b>SUSE Linux Enterprise Server 11 SP4 (Kernel v3.0)</b><ul style="list-style-type: none"><li>– gcc (64-bit) v4.3.4</li><li>– glibc v2.11.3</li></ul></li><li>• <b>SUSE Linux Enterprise Server 12 (Kernel v3.0.13)</b><ul style="list-style-type: none"><li>– gcc (32 and 64-bit) v4.3.4</li><li>– glibc v2.11.3</li></ul></li><li>• <b>OpenSUSE 13.1 (Kernel v3.7.10)</b><ul style="list-style-type: none"><li>– gcc (32 and 64-bit) v4.7.2</li><li>– glibc v2.17</li></ul></li><li>• <b>OpenSUSE 13.2 (Kernel v3.11.6)</b><ul style="list-style-type: none"><li>– gcc (32 and 64-bit) v4.8.1</li><li>– glibc v2.18</li></ul></li><li>• <b>OpenSuse 42.x (Kernel 4.4.27-2-default)</b><ul style="list-style-type: none"><li>– gcc (32 and 64-bit) v4.8.5</li><li>– glibc v2.22</li></ul></li><li>• <b>Ubuntu 17.x (Kernel 4.10.0-19-generic)</b><ul style="list-style-type: none"><li>– gcc (32 and 64-bit) v6.3.0</li><li>– glibc v2.24</li></ul></li><li>• <b>Ubuntu 18.x (Kernel 4.15.0.10.11-generic)</b><ul style="list-style-type: none"><li>– gcc (32 and 64-bit) v7.0</li><li>– glibc v2.27</li></ul></li><li>• <b>Debian Linux 8.x (Kernel v3.2.0.4)</b><ul style="list-style-type: none"><li>– gcc (32 and 64-bit) v4.7.2</li><li>– glibc v2.13</li></ul></li><li>• <b>Debian Linux 9.x (Kernel v4.9.0-3-amd64)</b><ul style="list-style-type: none"><li>– gcc (32 and 64-bit) v6.3.0</li><li>– glibc v2.24</li></ul></li></ul>

Hardware Requirements	Software Requirements
<b>Monitor and Settings:</b> VGA monitor with 800 x 600 resolution (1024 x 768 recommended)	<b>Java Runtime Environment:</b> Java Runtime Environment v1.6, 1.7 and 1.8 for the Java interface.
<b>Hard Disk Space:</b> 200 MB free hard disk space	<b>Web Browser (for viewing HTML Helps):</b> Firefox 3.5 or later
<b>RAM:</b> 128 MB RAM	<b>PDF File Viewer (for viewing PDF documents):</b> Adobe Acrobat 4.0 (or later)

## Installation Instructions

1. The Software is packed in a .tar archive. Extract files from the archive as follows:

```
tar -xvf RRMSSDK9.3.0.0041Linux.tar
```

2. Change the directory where the installation script *install.sh* exists (*slm\_0930\_linux\_combo\_cdrom* directory). Afterward, type *sh install.sh* to start the installation.
3. Accept the license agreement to proceed with the installation.
4. Enter the path of the installation directory.
5. You will be required to specify the RMS SDK serial number. This serial number is contained in the Gemalto Sentinel Order Credential e-mail and is unique for each vendor.



**Note:** Sentinel RMS is self-contained in the installation directory. To uninstall, remove the directory. Do stop the Sentinel RMS License Manager before uninstalling.

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## Installing Sentinel UNIX Driver (SUD)

Sentinel UNIX Driver (SUD) needs to be installed for making use of the hardware keys (for CID based locking and license generation). To install SUD on your system:



**Note:** The RMS License Manager included with this release supports version 7.5.6 of the Sentinel UNIX Driver.

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1. Extract the SUD installer from its compressed tar image placed at `<installdir>/redistributable/licenseManager/SUDInstaller tar.gz` location on the DVD by giving the following command:

```
tar -xvzf SUDInstaller.tar.gz
```

2. Change directory to SUDInstaller.
3. To install SUD USB driver on RPM based operating systems:
  - Change directory to usb.
  - Run command `rpm -i --force sntl-sud-7.5.6-0.i386.rpm` to install the driver.
4. To install SUD USB driver on Debian based operating systems :
  - Change directory to usb.
  - Run command `dpkg -i --force-architecture sntl-sud_7.5.6-0_i386.deb` to install the driver.

## Installed Directories

The following directories\files are installed:

Directory or File	Description
<b>development</b>	Contains all the RMS libraries, header files, and source code for licensing and customization purpose.
<b>manuals</b>	Documentation for the Sentinel RMS SDK.
<b>samples</b>	Examples that illustrate the various features of Sentinel RMS. The include files, which provide the prototypes for various Sentinel RMS library functions.
<b>vendorTools</b>	Contains the utilities and files for your use.   <b>Note:</b> The license generator is no longer included with the SDK. A download link is provided to you using e-mail. If not, contact Technical Support for obtaining it.
<b>redistributable</b>	The utilities and files for your customers, including the Sentinel RMS License Manager installer.
<b>ReleaseNotes.pdf</b>	This file.

# Major Documentation Resources

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The following are the major documentation resources for the product:

## Developer's Guide

Contains the complete product overview, the necessary information for licensing and distributing the applications. Useful for developers planning and implementing licensing. To access, use the following ways:

- PDF version is installed on the system can be accessed using the Doc Access Page (.htm) in the Manuals directory.
- The latest online copy can be accessed here:  
<http://sentinelrms.safenet-inc.com/RMSDocumentation/Vendor/Default.htm>

## API Reference Guide

Contains details about all the API functions, including the licensing library, system initialization, and so on. Useful for developers integrating the API functions in the code. To access, use the following ways:

- PDF version is installed on the system can be accessed using the Doc Access Page (.htm) in the Manuals directory.
- The latest online copy can be accessed here:  
<http://sentinelrms.safenet-inc.com/RMSDocumentation/Vendor/Default.htm>

The Developer's Guide and API Reference Guide are bundled together as the Vendor's documentation. You can find it as the last item in its ToC (in the left-side pane).

## System Administrator's Guide

Contains details about using the system administration and License Manager configuration options. Useful for the System Administrator of the end user (on the customer site). To access, use the following ways:

- The HTML version installed on the system can be accessed using the Doc Access Page (.htm) in the Manuals directory.
- The latest online copy can be accessed here:  
<http://sentinelrms.safenet-inc.com/RMSDocumentation/SysAdmin/Default.htm>

## License Generation API Reference Guide

Contains details about the License Generation API functions. To access, use the following ways:

- PDF version is available with the license generator module.
- The latest online copy can be accessed here:  
<http://sentinelrms.safenet-inc.com/RMSDocumentation/Licgen/Default.htm>

## SCL Add on for RMS Documentation

The complete documentation of the SCL Add on for RMS is hosted at: <http://sentinelrms.safenet-inc.com/scl/>

For getting started, begin with the *SCL Add-on for RMS Overview Guide*.

# Support Contacts

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You can contact us using any of the following options:

## Business Contacts

To find the nearest office or distributor, use the following URL:

<https://sentinel.gemalto.com/contact-us-sm/>

## Technical Support

To obtain assistance in using Gemalto Sentinel Products, feel free to contact our Technical Support team:

- Customer Support Portal: (Preferred)
  - <https://supportportal.gemalto.com/csm?id=sentinel>
- Phone:
  - AMER: 800-545-6608 (US toll free), +1-410-931-7520 (International)
  - EMEA / APAC: <https://supportportal.gemalto.com/csm?id=sentinel>  
Click "Contact us"
- E-mail (only if having issue submitting the technical issue via portal)  
[technical.support@gemalto.com](mailto:technical.support@gemalto.com)

## Downloads

You may want to explore updated installers and other components here:

<https://sentinelcustomer.gemalto.com/sentineldownloads/>