Sentinel RMS SDK v9.2.0
Release Notes for Macintosh (32 and 64-bit)

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Contents

Product Description

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 customer's network or hosted online. Usage collection and reporting is the most significant advantage obtained with cloud-connected licensing.

About This Document

This document contains details about the new features, problems corrected, and installation of the v9.2.0 of the Sentinel RMS SDK. The last major release was Sentinel RMS v9.1.0.

New Features

This section provides details about the new features and enhancements included in the RMS v9.2.0 release:

Introducing RSA-2048 Signed Licenses

Prior to this release, the RMS licenses were encrypted using the 128-bit AES algorithm. From this release onward, in addition to this, the RMS licenses are signed using RSA-2048 . This enhanced security is available with the latest version of licenses—v18 licenses—and requires no additional integration steps for license generation by the vendor. Each vendor is assigned a unique public/private key pair for signing licenses. This key pair is generated and managed by Gemalto and is seamlessly integrated with the License Generator.

For more information, refer to the section "Secure Licensing with Sentinel RMS" of the Chapter - Planning Application Licensing in the Sentinel RMS SDK Developer' Guide.

Unified API Enhancements

The following major enhancements, related to the Unified API, are included in this release. For more information, refer to the chapter "Unified API" of the Sentinel RMS SDK API Reference Guide.

New APIs

In this release, the following APIs are added:

API	Header File	Purpose
sntl_licensing_register_callback	licensing.h	Allows the user to register a vendor-defined callback. In this release, the extended custom (CustomEx) locking callbacks can be provided.
sntl_licensing_uninstall	licensing.h	Allows the user to delete a license from the designated License Manager's memory and license file.
sntl_licgen_parse	licgen_parser.h	Allows the user to decode and view the license details.

API	Header File	Purpose
sntl_licgen_free	licgen_parser.h	Releases the memory resources used by the license generation APIs.

Renamed Existing APIs

In this release, the following APIs are renamed to reflect their actual use:

New API (v9.2.0)	Existing API (v9.1.0)
In C	
sntl_licensing_ transfer	sntl_licensing_transfer_license
sntl_licensing_ install	sntl_licensing_install_license

New Attributes

In this release, the following attributes are added to existing APIs:

Attribute Key	API	Description
SNTL_ATTR_APPCONTEXT_ MINIMUM_SIGNING_KEY_INDEX	sntl_licensing_app_context_ new	This attribute is a part of the Introducing RSA-2048 Signed Licenses. Related Traditional API enhancement is Support for Setting the Minimum Signing Key Index.
SNTL_ATTR_REFRESH_UNITS_ REQUIRED	sntl_licensing_refresh_attr	Sets the number of tokens required at the time of renewing a license authorization. Related Traditional API enhancement is Support for Specifying the Number of Tokens During License Renewal section.
SNTL_ATTR_LOGIN_DISABLE_ GRACE_BROADCAST	sntl_licensing_login_attr	Suppresses the network broadcasts (looking for a License Manager with licenses) in the case of grace licenses on client machine. Related Traditional API enhancement is Support for Disabling Network Broadcast for Grace Licenses.

XSDs Available in the Installation Directory

Starting version v9.2.0, XML Schema Definitions (XSD) used by the Unified APIs are included under the *development* directory of the SDK installation.

sntl_licensing_get_info API Enhancements

This section briefly describes the various enhancements done in the sntl_licensing_get_info API. For more information, refer to the Sentinel RMS API Reference Guide.

Added New Query types

In this release, the sntl_licensing_get_info API is enhanced to provide the following additional information:

• Locking Code Information (lockCodeInfo) - Generates the locking code for a given client or License Manager.

• Lease License Job Synchronization Information (syncLicenseJobInfo) - Provides information about the current status of the lease job. This query is applicable to Cloud Served - Lease deployments (stand-alone only).

Renaming of Query Type Macros

In this release, the existing query type macros of the sntl_licensing_get_info API are also renamed to accept the required version. The old query types will be deprecated in the future versions.

For more information, refer to the *licensing.h* header file and Sentinel RMS SDK API Reference Guide.

Support for Obtaining Raw Fingerprint Values

In this release, the fingerprintInfo query type is updated to provide additional information about raw fingerprint values. Earlier, it used to provide hashed values of fingerprints. To support this enhancement, the fingerprint information query XML template has been updated. The version of the query XML template has been updated to v1.1.

Both v1.0 and v1.1 XML templates are supported in this release.

Enhancement Related to License Revocation

In this release, the sntl_licensing_install API is updated to support License Revocation workflow. This API now supports the installation of the Base64 encoded Permission Ticket (named as the *License Revocation Request* or LRR). Also, returns the Base64 encoded Revocation Ticket (named as the *License Revocation Acknowledgment* or LRA) as a part of the license revocation workflow.

Earlier, this API was used for license installation only.

For more information about the license revocation and corresponding process, Refer to the License Revocation Workflow defined in the *sntl_licensing_install* API section of the Sentinel RMS SDK API Reference Guide.

Traditional API Enhancements

The following major enhancements, related to the Traditional API, are included in this release. For more information, refer to the "Traditional API" section of the Sentinel RMS SDK API Reference Guide:

Support for Setting the Minimum Signing Key Index

A new API *VLSsetMinimumSigningKeyIndex* is added for setting the minimum signing key index. This is a part of the enhancement: Introducing RSA-2048 Signed Licenses.

Support for License Renewal with Specific Number of Tokens

Starting v9.2.0, you can use the *new_units_reqd* parameter of LSUpdate and VLSupdateExt APIs for specifying the required number of tokens during license renewal.

Support for Disabling Network Broadcast for Grace Licenses

Starting v9.2.0, a new value (VLS_DISABLE_GRACE_BROADCAST) of the 'special_flag' is introduced in the VLSrequestExt2 API. It is for suppressing the network broadcasts, looking for a License Manager with licenses, in the

case of grace licenses on a client machine.

Added New API for Clean-up of Existing Sessions/License Keys

In this release, a new API VLScleanupIssuedKeys is introduced. This API allows vendors to clean-up existing sessions/license keys on the network License Manager.

Enhancements Related to Sample Programs

This section briefly describes various enhancements related to the sample program:

Added New Sample Programs

In this release, the following sample(s) are added:

Sample	Description
sntl_revoke	Demonstrates license revocation process using the Unified API.
sntl_lease_demo	Demonstrates license enforcement using the Unified API in stand-alone lease deployments. This sample is specific to Cloud Served - Lease deployments (stand-alone) only.
	This sample is available in the SCL Add-on for Sentinel RMS Package.
	For more information about these samples, refer to the Quick Start Guide - Cloud Served-Lease Standalone License Deployment Mode.
sntl_lease_tool	Demonstrates fingerprint retrieval and force tranfer using the Unified API. This sample is specific to Cloud Served - Lease deployments (standalone) only.
	This sample is available in the SCL Add-on for Sentinel RMS Package.
	For more information about these samples, refer to the Quick Start Guide - Cloud Served-Lease Standalone License Deployment Mode.

Enhanced Existing Sample Programs

In this release, the following samples are enhanced to include additional functionality introduced in this release:

Sample	Description
sntl_demo	This sample program is enhanced to demonstrate the calling of the basic Unified API functions for on-premise deployment modes. For lease deployments, use of sntl_lease_demo is recommended.
sntl_tool	This sample program is enhanced to demonstrate the various tasks, such as license locking, installation, transfer, license parsing, and uninstall for on-premise deployment modes. For lease deployments, use of sntl_lease_tool is recommended.
gen_permission	Revisited the License Revocation Request generation flow.
verify_revoke	Revisited the License Revocation Acknowledgement workflow.
sample	This sample program is renamed to capacity.

Removed Sample Programs from Sentinel RMS SDK Installation

In this release, the following sample programs have been removed from the Sentinel RMS SDK installation:

- lslic

- revokesample

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.

Miscellaneous Changes

In this release, the following changes are also included:

Support for Two License Managers in a Redundant License Manager Pool

From this release onward, it is possible to create a redundant pool consisting of only two License Managers. Earlier, at least three License Managers were required to create a redundant pool. In the case of two License Managers, the majority rule should be turned off while generating the license in lscGen.

Availability of 64-bit License Manager for UNIX

Since v9.2.0, the 64-bit License Manager is also provided for UNIX platforms.

Problems Corrected in This Release

In this release, the following problems are corrected:

ID	Problem Description
RMS-4820	License Manager crash
RMS-6583 and 5697	Performance issues with RMS licensing
RMS-6666	LDD errors on RMS Linux libraries
RMS-6910	Seek the ability to dynamically delete license file from redundant license servers pool's configuration without restarting license servers.
RMS-6990	Cannot set IP address / server name in LSHOST
RMS-7125	Wechoid failing to run on Windows RDP with Error 88, terminal client detected
RMS-7207	Error 106 VLScg_RT_INVALID_REQUEST_DATA when calling VLSgeneratePermissionTicketExt2 () "Revocation By Permission Ticket" method
RMS-7280	Issue with License Renewal
RMS-7503	General Query about VLSconfigureTimeTamper Function
RMS-7564	Request for XSD samples for Unified RMS APIs XML Structures
RMS-7618	Documentation is incorrect and misleading
RMS-7664	64-bit Linux License Manager
RMS-7718	Not able to Install RMS 9.1 in 64-bit Ubuntu
RMS-7732	Compatibility of RMS 9.1.1 or later client libraries with RMS 9.1 License Manager
SM-2294	Upgrade to RMS 9.x
SM-2300	The switch from grace license tokens to regular network license tokens did not retain total amount of licensed tokens
SM-2302	Error 1015 in log file of service while using SCL Leased Licenses
SM-2308	lsdecod32 crashes on app launch
SM-2310	Strange behavior with grace licenses
SM-2315	Error while checkin-out the Licenses after upgrade to RMS 9.1
SM-2321	Unexpected value on "Time Tamper Info'' struct
SM-2322	Redundancy licenses are inactive on the servers if they are locked to Disk ID
SM-2326	Problem with Grace license without expiration date
SM-2328	Grace license issue on Ubuntu x64
SM-3194	License server consuming too much memory

ID	Problem Description
SM-3244	Unified API 9.1 - Automatic Refresh not working
SM-3583	Query about arguments to traditional RMS API
SM-3601	LSRequest failed to reuse the license tokens that had been previously released.
SM-3623	Description about vendor_list argument for VLSdiscover
SM-3679	VLSReqeust Cannot retrieve license when user name contains "!!!"
SM-3965	login_ignore_grace_error: mismatch in .Net API Offline and Online Documentation
SM-3997	Additional commuter token automatically checked out when license is added dynamically
SM-4255	Fail to read machine ID for CID using RMS 9.1 on Remote machine
SM-4556	RMS .NET interfaces (from 8.5.5 to RMS 9.x) - crash when you have both 32-bit and 64-bit dlls in the same solution with .NET.
SM-4624	Error 187 is not in the RMS documentation
SM-4681	Need more information/clarity about VLSdisableAutoTimer API
SM-4903	Wlmadmin shows incorrect number of tokens when commuter licenses are checked out after leader server goes down
SM-4905	Wlcsgen crashes
SM-4906	Lsdecode.exe crashes
SM-5223	Getting delay for 30 seconds while calling LSrequest call in standalone mode
SM-5481	Custom Persistence Sample in SDK not updated for new persistence types
SM-6036	Hardware key can't be found with VLSgetMachineID ()
SM-6173	Wechoid returns different locking code when run as admin
SM-6556	.NET wrapper causes PInvokeStackImbalance warning
SM-6722	Copyright mark is not correctly displayed
SM-6981	VLSisVirtualMachine detects VM Machine on a physical machine
SM-7172	sntlInitStandaloneSystem not working for a 64 bit build
SM-7578	VLScleanNetworkPersistenceInfo only cleans 3 of 4 commuters
SM-7663	Commuter information corrupted after License Manager upgrade to 9.1
SM-8300	Commuter in-use numbers showing incorrect values after RMS Server workstation or Service is restarted.
SM-8705	RMS License Manager 9.1.1.0037 crashing
SM-8941	The getSessionInfo method documentation is wrong (RMS JAVA)

ID	Problem Description
SM-9422	Memory leaks in a few APIs
SM-10014	Intermittent Time Tamper issue
SM-12626	Windows LsInit64 issue with sntlInitStandaloneSystem

Installation Information

This section contains following information about installation of the product:

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 specific to you.

System Requirements

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

Hardware Requirements	Software Requirements
Processor: iMac	**Operating Systems:** Mac OS 10.11 El Capitan Mac OS 10.12 Sierra
Monitor and Settings: VGA monitor with 800 x 600 resolution (1024 x 768 recommended)	**Compilers:** GCC Compiler v4.2.1
Hard Disk Space: 300 MB free hard disk space	**Java Runtime Environment:** Java Runtime Environment v1.6 or above for the Java interface
RAM: 512 MB RAM	

Installation Instructions

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

`$tar -xvf RMSSDK9.2.0.0118Mac.tar`

2. Change the directory where the installation script INSTALL.sh exists. 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.

6. You will be required to choose whether you want to allow the License Manager to start automatically on system reboot. If you allow this configuration, you will be required to reboot. However, if you do not allow this configuration, you will need to manually start the License Manager (from the /redistributable/licenseManager directory) each time you reboot the system.

Installed Directories

The following directories\files are installed:

Directory or File	Description
development	Contains all the RMS libraries, header files, and source code for licensing and customization purpose.
manuals	Documentation for the Sentinel RMS SDK.
samples	Examples that illustrate the various features of Sentinel RMS.The include files, which provide the prototypes for various Sentinel RMS library functions.
vendorTools	Contains the utilities and files for your use.
redistributable	The utilities and files for your customers, including the Sentinel RMS License Manager installer.
ReleaseNotes.pdf	This file.

Major Documentation Resources

This section provides details about 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. Available with the license generator module.

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

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 on "Contact us"

- E-mail (only if having issue submitting the technical issue via portal)
  technical.support@gemalto.com

Downloads

You may want to explore updated installers and other components here:
https://sentinelcustomer.gemalto.com/sentineldownloads/