

Sentinel HASP®

Moving from HASP HL to Sentinel HASP
Migration Guide



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Introduction

About Sentinel HASP

Sentinel HASP[®] is a Software Digital Rights Management (DRM) solution that delivers strong copy protection, protection for Intellectual Property and secure and flexible licensing. Sentinel HASP is an all-in-one Software DRM solution that enables you to choose a hardware- or software-based protection key, based on business considerations. Sentinel HASP software engineering and business processes are completely separate to ensure:

- ◆ Effective and efficient product development
- ◆ Quick time to market
- ◆ Immediate addressing of customer and market needs
- ◆ Comprehensive support throughout the software product's protection and licensing life cycle

The level of protection for your software is determined by the locking type you choose—hardware- or software-based. Sentinel HASP hardware-based protection, which utilizes HASP HL keys, provides the safest and strongest level of protection.

About This Guide

This guide is intended for HASP HL users who wish to continue using a hardware-based protection solution and to upgrade to the improved protection and advanced licensing options that Sentinel HASP provides for HASP HL keys.

Note: If you want to implement Sentinel HASP software-based protection, refer to the *Sentinel HASP Software Protection and Licensing Guide*.

The guide assumes that the reader has a good understanding of both the HASP HL and the Sentinel HASP systems. It provides the following:

- ◆ An overview and guidelines for transition from HASP HL to Sentinel HASP
- ◆ Procedures relating to the transition that are not documented in either the *Sentinel HASP Software Protection and Licensing Guide* and Help documentation, or the *HASP HL Software Protection and Licensing Guide v.1.30* and Help documentation
- ◆ Tables that list the tools and functionalities of HASP HL and their counterparts in Sentinel HASP

For detailed information and procedures relating to Sentinel HASP, refer to the *Sentinel HASP Software Protection and Licensing Guide* or to the relevant Sentinel HASP Help documentation.

For detailed information and procedures relating to HASP HL legacy functionality, refer to the *HASP HL Software Protection and Licensing Guide v.1.30* or to the relevant HASP HL Help documentation.

Transition Process

Sentinel HASP Protection Keys

When you move from HASP HL to Sentinel HASP, there is no need to recall or replace your install base of HASP HL keys. You need only update existing HASP HL keys to firmware v.3.21, using the Sentinel HASP Firmware Update utility.

Sentinel HASP Vendor Keys

The Sentinel HASP Starter kit includes two new Sentinel HASP Vendor keys that replace your HASP HL Master key:

- ◆ Sentinel HASP Master key, used in the licensing and production process
- ◆ Sentinel HASP Developer key, used in the software protection process

These keys are associated with your existing Batch Code, but contain a new Vendor Code for use with Sentinel HASP.

Transition Options

It is highly recommended that you implement a complete transition of your software protection from HASP HL to Sentinel HASP, although it is possible to maintain the legacy HASP HL protection simultaneously with added Sentinel HASP protection.

- ◆ The complete transition path is described in *Complete Transition to Sentinel HASP* on page 6.
- ◆ The path you take when combining Sentinel HASP and HASP HL protection is described in *Combining Sentinel HASP and HASP HL Protection* on page 9.

Complete Transition to Sentinel HASP

This section describes the process for complete transition from HASP HL to Sentinel HASP, including the adaptation of all HASP HL code segments in your software to Sentinel HASP. Where relevant, you are pointed to additional information in the *Sentinel HASP Software Protection and Licensing Guide*.

1. Installing Sentinel HASP and Introducing your Vendor Keys

If you have not already done so, install Sentinel HASP Vendor Suite and introduce your Sentinel HASP Vendor keys. As part of the Vendor key introduction process, Sentinel HASP generates customized Sentinel HASP Run-time API libraries for your Vendor Code.

(See *Sentinel HASP Installation Guide*.)

2. Defining Sentinel HASP Feature IDs

In Sentinel HASP Business Studio™, define new Feature IDs to replace the program numbers used in HASP HL.

(See *Sentinel HASP Software Protection and Licensing Guide*, chapter “Implementing Your Sentinel HASP Licensing Plan.”)

Note: Feature ID 0 is predefined as a default feature.

3. Linking to Sentinel HASP Run-time Libraries

Replace the links in your software to the HASP HL customized libraries with links to your customized Sentinel HASP Run-time API libraries.

(See *Sentinel HASP Software Protection and Licensing Guide*, chapter “Sentinel HASP Run-time API Protection.”)

4. Adapting HASP HL Code in Your Software

All HASP HL code segments must be adapted to Sentinel HASP as follows:

- a. Replace the HASP HL Vendor Code used in `hasp_login()` calls with the new Sentinel HASP Vendor Code. In Sentinel HASP, Vendor Codes are saved in the following directory:

```
...\Documents and Settings\[logged_in_user_name]\My Documents\Aladdin\HASP SRM [version]\VendorCodes
```

Note: For Windows Vista users, the directory path is

```
...\Users\[logged_in_user_name]\Documents\Aladdin\HASP SRM [version]\
```

- b. Replace the HASP HL program number used in the `hasp_login()` call with the appropriate Sentinel HASP Feature ID that you defined in Sentinel HASP Business Studio.

(See *Sentinel HASP Software Protection and Licensing Guide*, chapter “Sentinel HASP Run-time API Protection,” and appendix “Sentinel HASP Run-time API Reference.”)

5. Encrypting Data

In HASP HL, all program numbers use the same encryption key. Sentinel HASP applies a unique encryption key for each Feature ID, providing much stronger protection. In order to

implement this protection, you must replace all data that was encrypted using HASP HL with data that is encrypted using Sentinel HASP as follows:

- a. Decrypt the data using HASP HL, or locate the original unencrypted data.
- b. Ensure that you are using your new Sentinel HASP Vendor Code. Encrypt the data using Sentinel HASP, using the Feature ID relevant to that data segment.
- c. Ensure that the `hasp_login()` call for the data segment is defined with the same Feature ID that you used to encrypt the data. Replace the HASP HL-encrypted data in your code with the Sentinel HASP-encrypted data.

(See *Sentinel HASP Software Protection and Licensing Guide*, chapter “Protection Strategies.”)

Note: To maintain backward compatibility, the encryption key assigned to Sentinel HASP Feature ID 0 and associated with your Batch Code is identical to the encryption key that was used in HASP HL with your Batch Code for all Program Numbers. This enables you to decrypt data that was encrypted with HASP HL, using Sentinel HASP.

6. Writing Data to the HASP HL Key

The backward compatibility of Sentinel HASP with HASP HL enables you to continue writing data to the key with the `HASP_FILEID_MAIN` and `HASP_FILEID_LICENSE` memory files.

However, it is highly recommended that you take advantage of the secure communication channel that Sentinel HASP adds to the HASP HL key. To do this, write your existing data, which is already saved on the key with `HASP_FILEID_MAIN` and `HASP_FILEID_LICENSE` memory files, to one of the following Sentinel HASP memory files:

- ◆ Data in the `HASP_FILEID_RW` memory file enables you to write to, or read from, a key’s memory during run-time.
- ◆ Data in the `HASP_FILEID_RO` memory file enables you to read from a key’s memory during run-time. Data may be written to the key either during key production or when updating the key.

(See *Sentinel HASP Software Protection and Licensing Guide*, chapters “Implementing Your Sentinel HASP Licensing Plan” and “Sentinel HASP Remote Update System.”)

7. Wrapping Your Software with Sentinel HASP Envelope

Ensure that you use your new Sentinel HASP Vendor Code, and wrap the software using Sentinel HASP Envelope.

(See *Sentinel HASP Software Protection and Licensing Guide*, chapter “Sentinel HASP Envelope Protection.”)

8. Replacing HASP HL Drivers with Sentinel HASP Run-time Environment

Replace the HASP HL drivers that are included in your application setup with Sentinel HASP Run-time Environment.

(See *Sentinel HASP Software Protection and Licensing Guide*, chapter “Distributing Sentinel HASP with Your Software.”)

9. Updating HASP HL Keys to Firmware v.3.21

When you move to Sentinel HASP, you need to update your install base of HASP HL keys, and any keys that you have in stock, from firmware v.2.16 to v.3.21. You can update the firmware independently or as part of a software update, as follows:

- ◆ To run the firmware update independently:

Download the latest version of the GUI-driven HASP HL Firmware Update utility from the [Sentinel HASP Downloads Page](#), and distribute the utility to your end users.

- ◆ To run the firmware update as part of your software update:

Download the latest version of the `FirmwareUpdate.v2c` file from the [Sentinel HASP Downloads Page](#). Incorporate this file into your code using the Sentinel HASP Run-time API `hasp_update()` function,

OR

Navigate to `Program Files\Aladdin\HASP SRM\Redistribute\FirmwareUpdate` and incorporate `firmware_update_3.21.v2c` into your code.

10. Using HASP HL Net Keys

When Sentinel HASP is fully implemented, you do not need to install the HASP License Manager or the Aladdin Monitor on the server machine to which the HASP HL Net key is attached. Sentinel HASP Run-time Environment automatically installs Sentinel HASP Admin Control Center, including HASP License Manager, which manages HASP HL Net and HASP HL NetTime keys.

Combining Sentinel HASP and HASP HL Protection

You can maintain your legacy HASP HL protection simultaneously with the added protection and licensing capabilities of Sentinel HASP. This is possible because when the HASP HL key is updated to firmware v.3.21, the key is divided into two sectors, each of which functions as a separate key. The legacy key sector provides full HASP HL functionality. The Sentinel HASP key sector provides the advanced Sentinel HASP capabilities. When you combine HASP HL and Sentinel HASP functionality, the two separate key sectors require a dual process in the production phase and at the end-user site.

Following is a breakdown of the required steps when you choose to retain legacy HASP HL protection in your code concurrently with Sentinel HASP functionality. Where relevant, you are pointed to additional information in the *Sentinel HASP Software Protection and Licensing Guide*.

1. Installing Sentinel HASP and Introducing your Vendor Keys

Important: Do not uninstall HASP HL.

If you have not already done so, install Sentinel HASP Vendor Suite and introduce your Sentinel HASP Vendor keys. As part of the Vendor key introduction process, Sentinel HASP generates customized Sentinel HASP Run-time API libraries for your Vendor Code.

(See *Sentinel HASP Installation Guide*.)

2. Enabling Legacy HASP HL Functionality

- a. In the Sentinel HASP Vendor Suite window, from the Tools menu, select Settings.
- b. In the General tab of the Sentinel HASP ToolBox Settings dialog box, select the Allow access to HASP HL v.1.x check box.

Note: Version 1.x refers to the legacy functionality on the HASP HL keys.

3. Combining HASP HL and Sentinel HASP Protection

- a. For code sections for which you want to implement Sentinel HASP protection, proceed as described in steps 2–7 of *Complete Transition to Sentinel HASP*. These code sections use the Sentinel HASP sector of the HASP HL key.
- b. For code sections for which you want to retain existing HASP HL protection, it is not necessary to make any changes, since Sentinel HASP is backward compatible with HASP HL. These code sections use the legacy HASP HL sector on the HASP HL key.

4. Licensing, Production and End-User License Management

The Sentinel HASP and legacy HASP HL sectors in a HASP HL key are managed separately, and the licensing, production and updating of each sector are implemented using the relevant tools.

The following table details the tools and definitions you must use to manage each of the key sectors.

Management of...	Sentinel HASP Sector	Legacy HASP HL Sector
Program/ Feature ID	Recognizes Feature IDs in the range: 0x00000000-0x0000FFBF	Program numbers 0-112 Recognizes Feature IDs in the range: 0xFFFF0000-0xFFFF0070
Licensing	Sentinel HASP Business Studio	HASP HL Factory
Production and Creation of Remote Update Files	Sentinel HASP Business Studio	HASP HL Factory
Remote Update at End-User Site	Sentinel HASP Remote Update System (RUS)	HASP HL Remote Update System (RUS)
Key Monitoring	Sentinel HASP Admin Control Center	Aladdin Monitor
License Management at End-User Site	HASP License Manager, interfaced through the Sentinel HASP Admin Control Center	HASP License Manager

5. Replacing HL Drivers with Sentinel HASP Run-time Environment

Replace the HASP HL drivers that are included in your application setup with Sentinel HASP Run-time Environment, which is backward-compatible with HASP HL.

(See *Sentinel HASP Software Protection and Licensing Guide*, chapter “Distributing Sentinel HASP with Your Software.”)

6. Updating HASP HL Keys to Firmware v.3.21

Update your install base of HASP HL keys firmware v.2.16 to v.3.21 as described in step 9 of *Complete Transition to Sentinel HASP* in this document.

Appendix

Table 1: Memory Size in HASP HL Firmware v.3.21 Keys

Key Type	Legacy HASP HL Sector	Sentinel HASP Sector
Basic	–	–
Pro	112 bytes backward-compatible memory	112 bytes protected Read/Write memory 112 bytes ROM
Max	4 KB backward-compatible memory	4 KB protected Read/Write memory 2 KB ROM
Time	4 KB backward-compatible memory	4 KB protected Read/Write memory 2 KB ROM
Drive	4 KB backward-compatible memory	512 MB / 2 GB Flash memory 4 KB protected Read/Write memory 2 KB ROM
Net	4 KB backward-compatible memory	4 KB protected Read/Write memory 2 KB ROM
NetTime	–	4 KB protected Read/Write memory 2 KB ROM

Table 2: HASP HL Tools and Functions and their Sentinel HASP Counterparts

HASP HL Application / Functionality	Sentinel HASP Application / Functionality
HASP HL Vendor Code, read from file	Sentinel HASP Vendor Code, can be read from Sentinel HASP Business Studio database or from a file
HASP HL Envelope	Sentinel HASP Envelope
HASP HL Factory	Sentinel HASP Business Studio
HASP HL ToolBox	Sentinel HASP ToolBox
HASP HL Drivers	Sentinel HASP Run-time Environment
Aladdin Monitor	Sentinel HASP Admin Control Center (part of the Sentinel HASP Run-time Environment)
Aladdin DiagnostX	Sentinel HASP Admin Control Center (part of the Sentinel HASP Run-time Environment)
HASP HL Factory API	HASP HL Business Studio API (available with future Sentinel HASP releases)
HASP HL RUS	Sentinel HASP RUS
HASP HL API	Sentinel HASP Run-time API
–	Sentinel HASP Activation API
Key time set in HASP HL Factory	Key time set to UTC during production

HASP HL Application / Functionality	Sentinel HASP Application / Functionality
License Manager, Monitor, DiagnostiX	
Lmsetup.exe	Run-time setup
LM application – Nhsrvw32.exe	–
LM application (service) – Lmsrvice.exe	HASP License Manager – hasplms.exe
Monitor Setup – aksmon32.exe	Run-time setup
Nethasp.ini – client configuration file	Sentinel HASP Admin Control Center – from Configuration menu, Access to Remote License Managers hasplm.ini
Nhsrv.ini – LM configuration file	Sentinel HASP Admin Control Center – from Configuration menu, Access to Remote Clients hasplm.ini
Aladdin Monitor	Sentinel HASP Admin Control Center (part of the Sentinel HASP Run-time Environment)

Table 3: New Sentinel HASP Run-time API Functions*

HASP HL Function	Sentinel HASP Function
hasp_get_sessioninfo()	hasp_get_sessioninfo() hasp_get_info()
hasp_login()	hasp_login() hasp_loginscope()
hasp_read()	It is recommended that you transfer data saved in HASP HL with HASP_FILEID_MAIN and HASP_FILEID_LICENSE memory files to Sentinel HASP HASP_FILEID_RW or HASP_FILEID_RO memory files.
hasp_write()	

* Only functions that differ from HASP HL are listed. For additional information about the Sentinel HASP Run-time API functions, see the *Sentinel HASP Software Protection and Licensing Guide*, appendix “Sentinel HASP Run-time API Reference.”