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Driver Installation Guide for FlexNet ID Dongles

Legal Information

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1

Introduction

About FlexNet ID Dongles

A FlexNet ID dongle is a hardware device which locks FlexNet license rights to the machine to which the dongle is attached. Each FlexNet ID dongle contains a unique identity. This identity is used to provide a hostid. (This hostid type is referred as a *FLEXID*.) The `FLEXID` can be used to lock license rights to either a server or an end-user machine.

FlexNet dongles are normally used with license rights that are held in license files, and this document assumes that this is the case in all examples.

For the FlexNet dongle to communicate with the computer it is attached to, the appropriate drivers must be installed on the computer. Drivers are specific to a given platform and operating-system version. Therefore, you might need to download and provide updated drivers for existing products when new operating-system versions are released. The latest drivers are packaged with the current release version of the FlexNet Publisher Licensing Toolkit and are also available from specific download Flexera sites.

You must always install the drivers for the FlexNet ID dongles using the files provided by Flexera. Do not install drivers from any other source (for example, from an automatic search and download).

Purpose of This Guide

This document describes how to install the FlexNet dongle drivers and test their operation:

- Installing Dongle Drivers on Windows
- Installing Dongle Drivers on Mac
- Installing Dongle Drivers on Linux
- Testing the Dongle Driver Installation

Further information on using FlexNet dongles is provided in the documentation supplied with your Licensing toolkit. Depending on the version of the toolkit you are using, information about FlexNet dongles is provided in the following FlexNet Publisher documents:

- *Programming Reference for License File–Based Licensing*

- *C/C++ Function Reference*

Hostid keyword

FLEXID – The license server does not check for virtualization when attempting to extract the FLEXID. Normally it means a physical machine, but could also mean a virtual machine where the hypervisor supports USB pass-through. For VMWare USB dongle pass-through support, refer http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1021345

Supported FlexNet ID Dongles

The following table lists the FlexNet ID dongles, the platforms on which they can be used, the hostid keywords, and the name of the driver installation files.

Table 1-1 • FlexNet ID Dongles: Tested Platforms

Operating System	Manufacturer and Device and hostid Keyword	Driver Installation File
OS X 32-bit and 64-bit (x86 and x64 hardware) Apple OS X 10.13 and 10.14	SafeNet (FLEXID9): ● HASP 4 M1 and Sentinel HL Pro USB memory keys ● Sentinel HL Pro Drive	`FLEXID9_OSX_V7_90.dmg` (Version 7.9)
	Wibu Systems AG WibuKey (FLEXID10)	`FLEXID10_OSX_6.50.500.dmg` (Version 6.5)

Microsoft Windows 32-bit and 64-bit
(x86 and x64 hardware)
● Windows Server 2016 and 2019
● Windows 10 (Windows 10 Insider Preview builds are not supported.)
	SafeNet (FLEXID9):
	● HASP 4 M1 and Sentinel HL Pro USB memory keys
	● Sentinel HL Pro Drive
		32-bit:
		`FLEXID9_Windows_v7_90_i686.zip`
		(Version 7.9)
		64-bit:
		`FLEXID9_Windows_v7_90_x64.zip`
		(Version 7.9)

	Wibu Systems AG
	WibuKey (FLEXID10)
		32-bit:
		`FLEXID10_Windows_v6_50_i686.zip`
		(Version 6.5)
		64-bit:
		`FLEXID10_Windows_v6_50_x64.zip`
		(Version 6.5)

Table 1-1 • FlexNet ID Dongles: Tested Platforms

Operating System	Manufacturer and Device and hostid Keyword	Driver Installation File
RHEL and SLES 32-bit and 64-bit (x86 and x64 hardware) ● RHEL 6.x and 7.x ● SLES 11 SP4 and 12 ***Note*** • *Dongles are not supported on Ubuntu.*	SafeNet (FLEXID9): ● HASP 4 M1 and Sentinel HL Pro USB memory keys ● Sentinel HL Pro Drive	**32-bit** `aksusbd-7.90-1.i386.rpm` (Version 7.9) **64-bit:** `aksusbd-7.90-1.x86_64.rpm` (Version 7.9)
	Wibu Systems AG WibuKey (FLEXID=10)	**32-bit:** `WkRt-Lin-6.50.3310-500.i386.rpm` (Version 6.5) **64-bit:** `WkRt-Lin-6.50.3310-500.x86_64.rpm` (Version 6.5)

Note • *Up to three WibuKey dongles per machine are supported.*

Multiple Dongle Support

Multiple dongles are supported across platforms for release 11.12.1 and later. The following table indicates whether a platform supports single or multiple dongles.

Table 1-2 • Multiple dongle support

Dongle Provider	Platforms	Support Information in 11.12.0	Support Information in 11.12.1 and later
FLEXID10	Windows 32 and 64 bit	3 dongles maximum	3 dongles maximums
	Linux 32 and 64 bit	3 dongles maximum	3 dongles maximum
	MAC 32 and 64 bit	3 dongles maximum	3 dongles maximum

Table 1-2 • Multiple dongle support

Dongle Provider	Platforms	Support Information in 11.12.0	Support Information in 11.12.1 and later
FLEXID 9	Windows 32 bit	Multiple (one HASP4 + multiple Sentinel HL Pro)	Multiple (one HASP4 + multiple Sentinel HL Pro)
	Windows 64 bit	Multiple (one HASP4 + multiple Sentinel HL Pro)	Multiple (one HASP4 + multiple Sentinel HL Pro)
	Linux 32 bit	Multiple (multiple HASP4 + multiple Sentinel HL Pro)	Multiple (one HASP4 + multiple Sentinel HL Pro)
	Linux 64 bit	Single (HASP4 or Sentinel HL Pro)	Multiple (one HASP4 or multiple Sentinel HL Pro)
	Mac 32 bit	Multiple (multiple HASP + multiple Sentinel HL Pro)	Multiple (one HASP + multiple Sentinel HL Pro)
	Mac 64 bit	Single (Hasp4 or Sentinel HL Pro)	Multiple (one Hasp4 or multiple Sentinel HL Pro)

Environment Variable FLEXID_LIBRARY_PATH

You can use the environment variable `FLEXID_LIBRARY_PATH` to specify the location of the dongle dll/shared object.

On Windows, the separators ";" (semicolon) and "," (comma) are supported.

Example: `FLEXID_LIBRARY_PATH =C:\flexlm\test1,C:\temp\flexlm\v11.12.1.2;C:\fnp\v11.16.1.0`

On Linux, the separators ":" (colon) and "," (comma) are supported.

Example: `FLEXID_LIBRARY_PATH =/var/tmp,/usr/lib:/home/user/demo,.:/tmp`

Note • *If the value of `FLEXID_LIBRARY_PATH` exceeds 255 characters, an error message is displayed:*

`FLEXID9: The "FLEXID_LIBRARY_PATH" path for Aladdin exceeded the max limit of 255 characters!`

`FLEXID10: The "FLEXID_LIBRARY_PATH" path for Wibu exceeded the max limit of 255 characters!`

2

Installing Dongle Drivers on Windows

Where To Start

If you are installing FlexNet ID dongle drivers for the first time on a machine, use the instructions in Installing or Removing Current Dongle Drivers.

If you are replacing older drivers (previous to FlexNet Publisher 11.11.1) with the current versions, best practice is first to remove the older drivers as described in Removing Pre-11.11.1 Dongle Drivers; then install the new drivers as described in Installing or Removing Current Dongle Drivers.

If you have installed a current driver and want to remove it, follow the instructions in Installing or Removing Current Dongle Drivers.

Removing Pre-11.11.1 Dongle Drivers

For instructions to remove FlexNet ID dongle drivers installed previous to FlexNet Publisher 11.11.1, select the specific pre-11.11.1 installer used to install the drivers:

- Uninstalling Using FLEXID_Dongle_Driver_Installer.exe
- Uninstalling Using FLEXIDInstaller.exe

Caution • *If any of the dongle drivers were updated by Windows Update, remove them using only tools provided by the dongle manufacturer. See the dongle manufacturer's Web site for details.*

Uninstalling Using FLEXID_Dongle_Driver_Installer.exe

Task ***To remove (uninstall) dongle drivers installed with the FLEXID_Dongle_Driver_Installer.exe***

1. At a command prompt from the directory where the driver installer resides, run the following command:

   `FLEXID_Dongle_Driver_Installer.exe /remove`

2. Select the dongle drivers to uninstall, and click **Next**.

Note • *You have the option to use the command line to uninstall these drivers. You must do so in silent mode (for example,* `FLEXID_Dongle_Driver_Installer.exe /s /remove`*).*

Uninstalling Using FLEXIDInstaller.exe

Use the following method to remove dongle drivers installed by `FLEXIDInstaller.exe`.

Task ***To remove dongle drivers installed by FLEXIDInstaller.exe***

Access **Add or Remove Programs** (or the appropriate tool) from your Windows Control Panel, select the dongle drivers to remove, and click **Uninstall**.

Installing or Removing Current Dongle Drivers

Cautions

Do the following:

- Install the driver file before plugging the dongle in to your machine. Plugging in the dongle before installing the driver can cause an automatic search for driver files. The driver files found by an automatic search might not be compatible with FlexNet ID dongle.
- Use the methods described in this section to install the current versions of the dongle drivers. Do not allow Windows Update to install these drivers. Such an update can lead to unpredictable behavior of the dongles with FlexNet Licensing software.
- When using the command line (instead of the user interface) to install or remove a driver, you must use the silent mode.

Obtaining the FLEXID Dongle-Driver Installer

The following table lists FLEXID9 installers and shared objects for Windows. Shared objects are included in the FlexNet Publisher Licensing Toolkit in the same folder as the installer.

Table 2-1 • FLEXID9 installers and shared objects

Platform	Driver Version	Installer	Shared Object
Windows 32-bit	7.9	`FLEXID9_Windows_v7_90_i686.zip`	`haspsrm_win32.dll` `hasp_rt.exe` (copy the `hasp_rt.exe` to the same folder as the application protected by FlexNet Publisher.)
Windows 64-bit	7.9	`FLEXID9_Windows_v7_90_x64.zip`	`haspsrm_win64.dll` `hasp_rt.exe` (copy the `hasp_rt.exe` to the same folder as the application protected by FlexNet Publisher.)

Task ***To obtain the FLEXID dongle-driver installer***

1. Locate the `.zip` file for the appropriate Windows dongle-driver installer within your FlexNet Publisher Licensing Toolkit; or download the installer from the FlexNet Publisher download site. (For example, publishers download from the Flexera Product and License Center: https://flexerasoftware.flexnetoperations.com. End users should contact Flexera for the appropriate download site.)

   For a list of available dongle-driver installers, see Table 1-1, FlexNet ID Dongles: Tested Platforms, on page 6.

2. Decompress the file.

Installing or Removing FLEXID9 Drivers

The following procedures install or remove FLEXID9 (SafeNet) 32-bit or 64-bit dongle drivers.

Important • *FLEXID command-line options are case-sensitive.*

Installing FLEXID9 Drivers

Use either procedure to install a 32-bit or a 64-bit FLEXID9 driver. One procedure invokes a user interface for the installation process; the other performs a silent installation via the command line.

Task ***To install the driver using the supplied user interface***

At a command prompt from the directory where the dongle-driver installer resides, enter the following:

```
haspdinst.exe -i
```

After the installation, perform the steps described under To specify the location of the FLEXID9 dongle library.

Task ***To install the driver silently using the command line***

At a command prompt from the directory where the dongle-driver installer resides, enter the following:

```
haspdinst.exe -i -nomsg
```

After the installation, perform the steps described under To specify the location of the FLEXID9 dongle library.

Task ***To specify the location of the FLEXID9 dongle library***

Do one of the following:

- Define the FlexNet environment variable `FLEXID_LIBRARY_PATH` to point to the location of the dongle shared object, `haspsrm_win32.dll` or `haspsrm_win64.dll` (depending on your architecture).
- Manually copy the DLLs to the Windows installation `System32` or `SysWOW64` directory (depending on your architecture).

Important • *The SafeNet external license manager (*`hasp_rt.exe`*) must be placed in the same folder as the FlexNet Publisher dongle-protected applications (including lmhostid, vendor daemon, lmtools, and lmadmin). If* `hasp_rt.exe` *does not exist in the same folder, an unexpected SafeNet error dialog (referring to the SafeNet '*`hasp_cleanup`*' API) may appear when the FLEXID9 SafeNet runtime driver is not installed on the machine, but the dynamic library (*`haspsrm_*.dll`*) is copied to the* `System32/SysWow64` *folder.*

Removing FLEXID9 Drivers

Use either procedure to remove a 32-bit or a 64-bit FLEXID9 driver. One procedure invokes a user interface for the removal process; the other performs a silent removal via the command line.

Task ***To remove the driver using the supplied user-interface***

At a command prompt from the directory where the dongle-driver installer resides, enter the following:

```
haspdinst.exe -r
```

Task ***To remove the driver silently using the command line***

At a command prompt from the directory where the dongle-driver installer resides, enter the following:

```
haspdinst.exe -r -nomsg
```

Viewing Other Options

Use the following command to view additional options for the FLEXID9 driver installation or removal.

Task ***To view other options for FLEXID9 driver installation or removal***

At a command prompt from the directory where the driver installer resides, enter the following:

```
haspdinst.exe -?
```

Installing or Removing FLEXID10 Drivers

The following table lists FLEXID10 installers and shared objects for Windows. Shared objects are included in the installer zip.

Table 2-2 • FLEXID10 installers and shared objects

Platform	Driver Version	Installer	Shared Object
Windows 32-bit	6.5	`FLEXID10_Windows_v6_50_i686.zip`	`WkWin32.dll`
Windows 64-bit	6.5	`FLEXID10_Windows_v6_50_x64.zip`	`WkWin64.dll`

The following procedures install or remove FLEXID10 (Wibu) 32-bit or 64-bit dongle drivers.

Important • *FLEXID command-line options are case-sensitive.*

Installing FLEXID10 Drivers

Separate commands are used to install the 32-bit and the 64-bit versions of the FLEXID10 driver. You can invoke a user interface for the installation process or perform a silent installation via the command line.

Task ***To install the driver using the supplied user interface***

1. Update the parameters in setup.ini:

   ```
   ForceOverrite=0
   Gui=1
   ErrorMessages=1
   ```

2. At a command prompt from the directory where the dongle-driver installer resides, enter the appropriate command.

   - For a 32-bit driver:

     `SETUP32.exe`

   - For a 64-bit driver:

     `SETUP64.exe`

3. Double click the SETUP32.exe or SETUP64.exe.
4. Click **Next** to start the copy and setup process. Click **Next** through the wizard, and then click **Finish**.
5. Reboot the machine.

Note • *Failure to reboot once you install the driver can cause problems with the driver working properly.*

After the installation, perform the steps described under To specify the location of the FLEXID10 dongle library.

Task ***To install the driver silently using the command line***

1. Update the parameters in setup.ini file:

```
ForceOverrite=1
Gui=0
ErrorMessages=0
```

2. At a command prompt from the directory where the dongle-driver installer resides, enter the appropriate command.
   - For a 32-bit driver:

     `SETUP32.exe`

   - For a 64-bit driver:

     `SETUP64.exe`

3. Reboot the machine.

Note • *Failure to reboot once you install the driver can cause problems with the driver working properly.*

After the installation, perform the steps described under To specify the location of the FLEXID10 dongle library.

Task ***To specify the location of the FLEXID10 dongle library***

Do one of the following:

- Define the FlexNet environment variable `FLEXID_LIBRARY_PATH` to point to the location of the dongle shared object, `WkWin32.dll` or `WkWin64.dll` (depending on your architecture).
- Manually copy the DLLs to the Windows installation `System32` or `SysWOW64` directory (depending on your architecture).

Removing FLEXID10 Drivers

Separate commands are used to remove the 32-bit and the 64-bit versions of the FLEXID10 driver. You can invoke a user interface for the removal process or perform a silent removal via the command line.

Task ***To remove the driver using the supplied user-interface***

Access **Add or Remove Programs** (or the appropriate tool) from your Windows Control Panel, select **WibuKey** and click **Uninstall**.

Reboot the machine.

Task ***To remove the driver silently using the command line***

1. Unplug the FLEXID10 dongle from the machine.
2. Update the following parameters in setup.ini file:

   ```
   ForceOverrite=1
   Gui=0
   ErrorMessages=0
   ```

3. At a command prompt from the directory where the dongle-driver installer resides, enter the appropriate command.
   - For a 32-bit driver:

     ```
     SETUP32.exe /R
     ```

   - For a 64-bit driver:

     ```
     SETUP64.exe /R
     ```

4. Reboot the machine.

Disabling Network Monitor and Network Server

Task ***To disable Network Monitor and Network Server in the setup installer***

Comment out the following lines in `setup.ini`:

```
; core tool files
;wksvw32.exe=1,wksvw32.ex_
;wksvmon.exe=1,wksvmon.ex_
```

3

Installing Dongle Drivers on Mac

This chapter describes how to use the FlexNet dongle driver installers for OS X.

Installing or Removing FLEXID9 Drivers

Use the following procedures to install or remove the driver for the FLEXID9 (SafeNet) dongle.

Important • *FLEXID command-line options are case-sensitive.*

Installing FLEXID9 Drivers

Use either procedure to install a FLEXID9 driver. One procedure invokes a user interface for the installation process; the other performs a silent installation via the command line.

Note • *Best practice is to install the driver using the user-interface method.*

Task ***To install the driver using the supplied user interface***

1. Locate the installer file `FLEXID9_OSX_V7_90.dmg` within your FlexNet Publisher Licensing Toolkit; or download the installer from a designated FlexNet Publisher download site. (For example, publishers download from the Flexera Product and License Center: https://flexerasoftware.flexnetoperations.com. End users should contact Flexera for the appropriate download site.)
2. Double-click the file, and follow the on-screen instructions in the installer to complete the installation.

After the installation, perform the steps described under To specify the location of the FLEXID9 dongle library.

Note • *If the end user is using x64_mac10 kits, the universal_mac10 can be used from the dongle.zip.*

Task ***To install the driver silently using the command line***

Run the following commands in the order shown:

```
hdiutil attach FLEXID9_OSX_V7_90.dmg
cd /Volumes/Sentinel Runtime/.Packages
sudo installer -pkg "/Volumes/ Sentinel Runtime/.Packages/Sentinel Runtime.pkg" -target "/"
```

Note • *This procedure is for reference only; it might not work properly on some machines.*

After the installation, perform the steps described under To specify the location of the FLEXID9 dongle library.

Task ***To specify the location of the FLEXID9 dongle library***

Do one of the following:

- Define the FlexNet environment variable `FLEXID_LIBRARY_PATH` to point to the location of the dongle shared object, `hasp_darwin.dylib`.
- Define the system environment variable `DYLD_LIBRARY_PATH` to point to the location of the dongle shared object, `lhasp_darwin.dylib`.

Removing FLEXID9 Drivers

Use either procedure to remove the FLEXID9 driver. One procedure invokes a user interface for the removal process; the other performs a silent removal via the command line.

Note • *Best practice is to remove the driver using the user-interface method.*

Task ***To remove the driver using the supplied user interface***

1. Double-click the installer file `FLEXID9_OSX_V7_90.dmg`. Copy the files from the `FLEXID9_OSX_V7_90.dmg` to the desktop.
2. Run this command:

   ```
   sudo ./dunst
   ```

3. Manually delete the directories `etc/hasplm` and `var/hasplm`.
4. Reboot the machine.
5. Try installing the latest drivers using this command:

```
sudo ./dinst
```

Task ***To remove the driver silently using the command line***

1. Enter the following command to list all files installed for the dongle driver:

   ```
   lsbom -fls /Volumes/Sentinel Runtime/.Packages/Sentinel Runtime.pkg/Contents/Archive.bom
   ```

2. Perform *one* of the following:

   - Manually delete each of the files that are listed after performing step 1.
   - Run this command:

     ```
     lsbom -fls /Volumes/Sentinel Runtime/.Packages/Sentinel Runtime.pkg/Contents/Archive.bom | (cd /
     ; sudo xargs rm)
     ```

     Note • *This command is for reference only. It might not work properly on some machines.*

Installing or Removing FLEXID10 Drivers

Use the following procedures to install or remove the driver for the FLEXID10 (WibuKey) dongle.

Important • *FLEXID command-line options are case-sensitive.*

Installing FLEXID10 Drivers

Use either procedure to install a FLEXID10 driver. One procedure invokes a user interface for the installation process; the other performs a silent installation via the command line.

Note • *Best practice is to install the driver using the user-interface method.*

Task ***To install the driver using the supplied user interface***

1. Locate the installer file `FLEXID10_OSX_6.50.500.dmg` within your FlexNet Publisher Licensing Toolkit; or download the installer from a designated FlexNet Publisher download site. (For example, publishers download from the Flexera Product and License Center: https://flexerasoftware.flexnetoperations.com. End users should contact Flexera for the appropriate download site.)

2. Double-click the file, and follow the on-screen instructions in the installer to complete the installation.

After the installation, perform the steps described under To specify the location of the FLEXID10 dongle library.

Task ***To install the driver silently using the command line***

Run the following commands in the order shown:

```
hdiutil attach FLEXID10_OSX_6.50.500.dmg
cd /Volumes/WibuKey
sudo installer -pkg WkInstall.mpkg -target "/"
```

Note • *This procedure is for reference only; it might not work properly on some machines.*

After the installation, perform the steps described under To specify the location of the FLEXID10 dongle library.

Task ***To specify the location of the FLEXID10 dongle library***

Do one of the following:

- Define the FlexNet environment variable `FLEXID_LIBRARY_PATH` to point to the location of the dongle shared object, `libwkextmac.dylib`.
- Define the system environment variable `DYLD_LIBRARY_PATH` to point to the location of the dongle shared object, `libwkextmac.dylib`.

Removing FLEXID10 Drivers

Use either procedure to remove a FLEXID10 driver. One procedure invokes a user interface for the removal process; the other performs a silent removal via the command line.

Note • *Best practice is to remove the driver using the user-interface method.*

Task ***To remove the driver using the supplied user interface***

Double-click the installer file `FLEXID10_OSX_6.50.500.dmg`.

Task ***To remove the driver silently using the command line***

1. Enter the following commands to list all files installed for the dongle driver:

   ```
   lsbom –fls /Volumes/ WibuKey/packages/AxProtector.pkg/Contents/Archive.bom
   lsbom –fls /Volumes/ WibuKey/packages/WkCFM9.pkg/Contents/Archive.bom
   lsbom –fls /Volumes/ WibuKey/packages/WkDriver.pkg/Contents/Archive.bom
   lsbom –fls /Volumes/ WibuKey/packages/WkServer.pkg/Contents/Archive.bom
   ```

2. Perform *one* of the following:

   - Manually delete each of the files that are listed after performing step 1.

- Run these commands in the order shown:

```
lsbom -fls /Volumes/ WibuKey/packages/AxProtector.pkg/Contents/Archive.bom | (cd /; sudo xargs
rm)
lsbom -fls /Volumes/ WibuKey/packages/WkCFM9.pkg/Contents/Archive.bom | (cd /; sudo xargs rm)
lsbom -fls /Volumes/ WibuKey/packages/WkDriver.pkg/Contents/Archive.bom | (cd /; sudo xargs rm)
lsbom -fls /Volumes/ WibuKey/packages/WkServer.pkg/Contents/Archive.bom | (cd /; sudo xargs rm)
```

Note • *This set of commands is for reference only. The commands might not work properly on some machines.*

4

Installing Dongle Drivers on Linux

This chapter describes how to use the FlexNet dongle-driver rpm files for Linux.

Installing or Removing FLEXID9 Drivers

The following procedures describe how to install or remove FLEXID9 (SafeNet) 32-bit or 64-bit dongle drivers. Before beginning the installation process, however, you must do the following:

- Ensure that you are logged on with superuser (root) privileges.
- Remove any older versions of the dongle driver. For details, see the next section.

Important • *FLEXID command-line options are case sensitive.*

Removing Older Dongle-Driver Versions

Before installing the latest version of a FlexNet ID dongle driver, remove any dongle driver that was available with a pre-11.11.1 version of FlexNet Publisher.

Task ***To remove an older version of the FLEXID9 dongle driver you are installing***

At a command prompt from the directory where the dongle-driver rpm file resides, enter the appropriate command:

- For a RHEL driver:

  ```
  rpm -e aksusbd-redhat
  ```

- For a SLES driver:

  ```
  rpm -e aksusbd-suse
  ```

FLEXID9 Installers and Shared Objects

The following table lists FLEXID9 installers and shared objects for Linux. Shared objects are included in the FlexNet Publisher Licensing Toolkit in the same folder as the installation archive file.

Table 4-1 • FLEXID9 installers and shared objects

Platform	Driver Version	Installer	Shared Object
Linux 32-bit	7.9	`aksusbd-redhat-suse-7.90.tar.gz`	`libhasp_linux_i686.so`
Linux 64-bit	7.9	`aksusbd-redhat-suse-7.90.tar.gz`	`libhasp_linux_x86_64.so`

Installing FLEXID9 Drivers

Use the following procedure to install the latest driver for a FLEXID9 dongle on Linux. The same command is used to install the driver on RHEL or SLES (32-bit or 64-bit).

Task ***To install the FLEXID9 driver***

1. Locate the installation archive file `aksusbd-redhat-suse-7.90.tar.gz` within your FlexNet Publisher Licensing Toolkit; or download the installation archive file from a designated FlexNet Publisher download site. (For example, publishers download from the Flexera Product and License Center: https://flexerasoftware.flexnetoperations.com. End users should contact Flexera for the appropriate download site.)
2. Extract `aksusbd-redhat-suse-7.90.tar.gz`.
3. At a command prompt from the directory where the dongle-driver rpm file resides, enter the following:
   - For a 32-bit driver:

     ```
     rpm –i aksusbd-7.90-1.i386.rpm
     ```

   - For a 64-bit driver:

     ```
     rpm -i aksusbd-7.90-1.x86_64.rpm
     ```

   (You require root privileges.)
4. Do one of the following:
   - Define the FlexNet environment variable `FLEXID_LIBRARY_PATH` to point to the location of the dongle shared object, `libhasp_linux_i686.so` or `libhasp_linux_x86_64.so` (depending on your architecture).
   - Define the system environment variable `LD_LIBRARY_PATH` to point to the location of the dongle shared object, `libhasp_linux_i686.so` or `libhasp_linux_x86_64.so` (depending on your architecture).

Removing FLEXID9 Drivers

Use the following procedure to remove the driver for a FLEXID9 (SafeNet) dongle on Linux.

Task ***To remove the FLEXID9 driver***

Execute the following command:

```
rpm -ev aksusbd
```

(You require root privileges.)

Installing or Removing FLEXID10 Drivers

The following procedures describe how to install or remove FLEXID10 (Wibu) 32-bit or 64-bit dongle drivers.

Important • *FLEXID command-line options are case sensitive.*

FLEXID10 Installers and Shared Objects

The following table lists FLEXID10 installers and shared objects for Linux. Shared objects are included in the FlexNet Publisher Licensing Toolkit in the same folder as the installation archive file.

Table 4-2 • FLEXID9 installers and shared objects

Platform	Driver Version	Installer	Shared Object
Linux 32-bit	6.5	`WkRt-Lin-6.50.3310-500.i386.rpm`	`libwklin.so.6`
Linux 64-bit	6.5	`WkRt-Lin-6.50.3310-500.x86_64.rpm`	`libwklin64.so.6`

Installing FLEXID10 Drivers

Use the following procedure to install the driver for a FLEXID10 (Wibu) dongle on Linux.

Task ***To install the FLEXID10 driver***

1. Locate the appropriate rpm file within your FlexNet Publisher Licensing Toolkit; or download the installer from a designated FlexNet Publisher download site. (For example, publishers download from the Flexera Product and License Center: https://flexerasoftware.flexnetoperations.com. End users should contact Flexera for the appropriate download site.)
   - For a 32-bit driver:

     `WkRt-Lin-6.50.3310-500.i386.rpm`
   - For a 64-bit driver:

     `WkRt-Lin-6.50.3310-500.x86_64.rpm`

2. At a command prompt from the directory where the dongle-driver rpm file resides, enter the appropriate command (you probably require root privileges):
   - For the 32-bit driver:

     ```
     rpm -i WkRt-Lin-6.50.3310-500.i386.rpm
     ```

   - For the 64-bit driver:

     ```
     rpm -i WkRt-Lin-6.50.3310-500.x86_64.rpm
     ```

Removing FLEXID10 Drivers

Use the following procedure to remove the driver for a FLEXID10 (Wibu) dongle on Linux.

Task ***To remove the FLEXID10 driver***

At a command prompt from the directory where the dongle-driver rpm file resides, enter the following command:

```
rpm -ev WkRt-Lin
```

(You require root privileges.)

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Testing the Dongle Driver Installation

The following sections describe how to test that the dongle driver has been installed correctly:

1. Obtaining the Dongle Identity (FLEXID)—Uses the simplest method involving the dongle and `lmutil`, `lmadmin`, `lmhostid`, or `LMTOOLS`.
2. Issuing a License That Uses a FlexNet ID Dongle—Requires installation of a licensed product.

Obtaining the Dongle Identity (FLEXID)

To perform this test you require:

- A dongle
- `lmutil` utility, `lmhostid`, `lmadmin`, or a copy of `LMTOOLS` (only available on Windows)

This test attempts to obtain the dongle identity from the dongle. The dongle driver is used to access the dongle and request its identity and thus this tests that the dongle driver has been correctly installed.

Task ***To obtain the dongle FLEXID***

1. On Windows systems, if you have just installed the dongle driver, ensure that you restart your system to complete the installation of the driver software. (Mac and Linux systems do not require a restart.)
2. Connect the dongle to your machine.
3. Install the `lmutil` utility, `lmadmin`, `lmhostid`, or `LMTOOLS`.
4. Follow the steps indicated by the utility you are using:
   - If using `lmadmin`:
     a. Run `lmadmin`.
     b. In a web browser, open the `lmadmin` user interface. (Default location is **`http://localhost:8090`**.)
     c. Log in by entering your username and password. (Default username/password is **`admin`**/**`admin`**.)

d. Click **Administration**.

e. Click **System Information**.

f. Verify that a valid **FLEXID** is displayed (for example **9-6b3366b2**).

- If using `lmhostid`:

  a. Issue the following command from a command prompt:

  ```
  lmhostid -flexid or lmhostid -flexid -long
  ```

  Note • *The command* `lmhostid -flexid` *is to fetch the dongle id and* `lmhostid -flexid -long` *command is used to get the error or log information along with the dongle id.*

  b. Verify that a valid `FLEXID` is returned. Example output might be the following:

  ```
  lmhostid - Copyright <c> 1989-2013 Flexera Software LLC. All Rights Reserved.
  The FlexNet host ID of this machine is "FLEXID=9-6b3366b2"
  ```

- If using `LMTOOLS` (only available on Windows):

  a. Double-click `LMTOOLS.exe`.

  b. Click **System Settings**.

  c. Verify that a valid **FLEXID** is displayed (for example **9-6b3366b2**).

  Note • `LMTOOLS` *does not display the Wibu dongle* `FLEXID`.

Issuing a License That Uses a FlexNet ID Dongle

These instructions describe how to use the example FlexEnabled application (`lmflex`) and other example files provided in the Licensing toolkit to issue a license that uses a FlexNet ID Dongle. Instructions are provided to test the use of the dongle:

- Issuing a License on an End-User Machine
- Issuing a License on a License Server

Building the Licensing Toolkit With Dongle Support

The following instructions assume that your Licensing toolkit is built with dongle support. For example, the toolkit build command for license-file-based licensing on a Windows machine would look something like this:

```
nmake -f makefile DONGLE=1
```

See the *Development Environment Guide* for more information about toolkit build commands and options.

Issuing a License on an End-User Machine

These instructions describe how to create a license that uses a FLEXID and use the example FlexEnabled application `lmflex` to check out the license.

Task ***To issue and use a license that uses a FlexNet ID dongle on an end-user machine***

1. Obtain the dongle identity as described in Obtaining the Dongle Identity (FLEXID).
2. Create a license file that contains a license that uses the FLEXID:
   - Within your FlexNet Publisher Licensing Toolkit installation directory, open the example license file `<platform_dir>\uncounted.lic` with an editor.
   - Change the feature from **f2** to **f4**.
   - Change `HOSTID=ANY` to the dongle identity obtained in step 1, for example:

     `HOSTID=FLEXID=9-6b3366b2`
   - Save the file as `uncounted_FLEXID.lic`.
   - Sign the license file using `lmcrypt`. Type the following at a command prompt:

     `lmcrypt uncounted_FLEXID.lic`
3. Check out the license:
   - Run `lmflex`.
   - Type **f4** and press **Enter**.
   - `lmflex` reports that the license has been checked out.

Issuing a License on a License Server

These instructions describe how to create a license for a license server that uses a FLEXID. The license is for use by the example vendor daemon, `demo`. The example FlexEnabled application `lmflex` is used to check out the license.

Note • *The following procedure uses Windows-based command syntax. For UNIX platforms, apply the appropriate syntax.*

Task ***To issue and use a license that uses a FlexNet ID dongle on a license server***

1. Obtain the dongle identity as described in Obtaining the Dongle Identity (FLEXID).
2. Create a license file that contains a license that uses the `FLEXID`:
   - **a.** Within your FlexNet Publisher Licensing Toolkit installation directory, open the example license file `<platform_dir>\counted.lic` in a text editor.
   - **b.** Add the `Server` line with HOSTID set to the FLEXID, as in the example:

     `Server this_host FLEXID=9-6b3366b2`
   - **c.** Save the file as `counted_FLEXID.lic`.
   - **d.** Sign the license file using `lmcrypt`. Type the following at a command prompt:

     `lmcrypt counted_FLEXID.lic`

3. Move the license file to `<platform_dir>\lmadmin\demo`.

4. For purposes of this test, copy the vendor daemon `demo.exe` and its associated library `demo_libFNP.dll` from the `<platform_dir>` directory to the `<platform_dir>\lmadmin\demo` directory.

Note • *On UNIX platforms, copy the vendor daemon* `demo` *and its associated library* `demo_libFNP.so` *from the* `<platform_dir>` *directory to the* `<platform_dir>/lmadmin/demo` *directory. On AIX, copy* `demo` *and* `demo_server_libFNP_notr.so`*.*

5. Start the license server:

   a. Import the license file by entering the following at a command prompt from `<platform_dir>\lmadmin`:

   ```
   lmadmin -import demo\counted_FLEXID.lic -force
   ```

   b. Start the license server:

   ```
   lmadmin -adminOnly no -allowRemoteStopServer yes
   ```

6. Return to the `<platform_dir>`, and run `lmflex`.

7. Type **`f1`** and press **Enter**.

   `lmflex` reports that the license has been checked out.

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FlexNet ID Dongle FAQ and Troubleshooting

FAQ

FlexNet ID dongle device drivers are included with the FlexNet Licensing SDKs, which authorized customers may download from the Product and License Center at the following location:

https://flexerasoftware.flexnetoperations.com

End users of FlexEnabled products that support FlexNet ID dongles must contact their software vendor directly to download compatible dongle driver version. However, publishers can obtain the latest supported driver versions at the following location:

Home > Flexera Product and License Center > FlexNet Publisher > FlexNet Publisher Licenses & Tools (11.16.6): Files

FlexNet Publisher Dongle Drivers	142 MB	dongle--11.16.6.0_v6.zip

1. Will my 11.11.1 FlexNet Publisher application run seamlessly side-by-side with my FlexNet Publisher 11.12.1 application while using the same Sentinel HL Pro dongle?

   It works seamlessly. If you face any problem, please refer to troubleshooting scenarios listed below in the chapter. If you do experience an issue, and the driver version between the FlexNet Publisher versions is different, try using the older driver.

2. Why has Flexera moved to the SRM API?

   HASP SRM is used to support multiple dongles on Win64, and is the dongle provider's recommended API going forward.

3. Why is Flexera now installing a .dll or .so to support FLEXID9?

   We have used dynamic linking of dongle API libraries as the dongle provider's recommended method of HASP SRM implementation. This needs .dll or .so installation to the system path.

4. Why is only one ‘HASP4’ FLEXID 9 dongle supported? What do I get in exchange for this limitation?

Hasp SRM has limited support to HASP4 keys and they are soon to be End-Of-Life. Before the SRM API was adopted in FlexNet Publisher 11.12, only one FLEXID9 dongle was supported in Win64. In 11.12, multiple 'Sentinel HL Pro' FLEXID9 dongles are now supported on Win64. On Win32, multiple 'Sentinel HL Pro' dongles are still supported, but now only one of the older HASP4 dongles is supported. So, by removing support for multiple older 'HASP4' dongles on Win32, Flexera has been able to introduce support for multiple newer 'Sentinel HL Pro' dongles on Win64. To reiterate: Multiple 'Sentinel HL Pro' dongles are supported on both Win32 and Win64 in FlexNet Publisher 11.12. For more information see Appendix 6, Listed are the possible troubleshooting scenarios:.

5. Do I need to upgrade any of my dongles?

   The older 'HASP4' revision of the FLEXID9 dongle is shortly to be end-of-life, and may not be supported in upcoming versions of FlexNet Publisher. Flexera recommends replacing these older dongles with the newer 'Sentinel HL Pro' revision.

FLEXID9 Troubleshooting

This troubleshooting information provides guidance to the software publishers and their end users to troubleshoot the FLEXID9 dongle-related issues that might arise during upgrade of FlexNet Publisher Version 11.12 release on Windows platforms.

FlexNet Publisher 11.12 has changed the FLEXID9 dongle implementation of HASP4 and Sentinel HL Pro to HASP SRM with the primary focus on supporting multiple dongle keys and preparing for the next generation of HASP dongles.

The two types of FLEXID9 dongles which Flexera sells are:

HASP4

Figure 6-1: Hasp4

HASP4 - HASP4 keys are longer ones – 2 inches (thin).

HASPHL

Figure 6-2: HASPHL

- HASPHL--Sentinel HL Pro keys are of three variants.
  - Short ones (< 2 inches)
  - Medium ones
  - Fat and longer ones (> 2 inches)

Multiple FLEXID9 dongles will be supported on all platforms from FlexNet Publisher 11.12.1 onwards. Multiple FLEXID9 dongles include multiple Sentinel HL Pro keys and a single HASP4 key.

Task ***Dongle driver installation steps:***

1. Set up the run-time environment.
2. Run the command-line installer, `haspdinst.exe`, that is available in the toolkit (`FLEXID9_Windows_vx_xx_xxx.zip`).
3. A README document provided in the toolkit describes possible limitations and the required troubleshooting actions.
4. The user space dongle dynamic libraries, `haspsrm_win32.dll` and `haspsrm_win64.dll` for 32-bit and 64-bit platforms respectively, are not installed when the run-time command-line installer for Sentinel hasp (`haspdinst.exe`) is run. This is because these libraries are specific to Flexera and therefore not included as part of the installer. These libraries are present in the toolkit `<platform_dir>` folder and publishers should include them in their own installers when supporting FLEXID9 hostids on Windows. The relevant DLLs should be copied to the folder:
   - On a 64-bit system, publishers using the x64_n6 kit should install `haspsrm_win64.dll` to `%windir%/System32`.
   - On a 64-bit system, publishers using the i86_n3 kit should install `haspsrm_win32.dll` to `%windir%/SysWOW64`.

     Important • *The SafeNet external license manager (`hasp_rt.exe`) must be placed in the same folder as the FlexNet Publisher dongle-protected applications (including lmhostid, vendor daemon, lmtools, and lmadmin). If `hasp_rt.exe` does not exist in the same folder, an unexpected SafeNet error dialog, referring to the SafeNet 'hasp_cleanup' API, may appear when the FLEXID9 SafeNet runtime driver was not installed on the machine but the dynamic library (`haspsrm_*.dll`) was copied to the `System32/SysWow64` folder.*
   - On a 32-bit system, publishers using the i86_n3 kit should install `haspsrm_win32.dll` to `%windir%/System32`
   - On a 64-bit Linux system, publishers using the x64_lsb kit should install `libhasp_linux_x86_64.so` to `/usr/lib64`.
   - On a 32-bit Linux system, publishers using the i86_lsb kit should install `libhasp_linux_i686.so` to `/usr/lib`.

- On a Max OS X system, publishers using the universal_mac kit should install `hasp_darwin.dylib` to `/usr/local/lib`.

Listed are the possible troubleshooting scenarios:

- A FLEXID9 key is no longer detected after an upgrade from earlier FlexNet Publisher version to 11.12.

  Check for the type of the key.

  a. If the key type is HASP4, unplug all the keys. Plug in this HASP4 key, preferably on the first slot of the primary USB slots. lmhostid utility should list an entry(ID) for this HASP4 key now. Continue plugging in the rest of the Sentinel HL Pro keys. If the HASP4 key is still not detected, the key could be damaged. Consider replacing the dongle.

  b. If the key type is Sentinel HL Pro, the problem could be due to the firmware version of the key. If the firmware version is lower than 3.20, the key will not be detected. Upgrade the firmware of your dongle using a utility by SafeNet. The Firmware Upgrade utility can be downloaded from this link below and the utility can be used to determine the firmware version of the key:
  http://sentinelcustomer.safenet- inc.com/sentineldownloads/
  ?s=&c=all&p=all&o=all&t=Firmware+Updates&l=all

  c. Checkout performance degradation may occur when multiple FLEXID9 keys were present on the machine. When the dongle API is executed, it communicates to each dongle and perform a security check on each of them. If more than one dongle is discovered, it takes longer to communicate to each dongle, which results in a delay. It is recommended to limit the number of dongles to a reasonable count on the machine.

- Only one FLEXID9 dongle is reported by FlexNet Publisher

  In order to support multiple FLEXID9 dongles, Sentinel LDK License Manager must be running on the machine. Examine the running processes on the machine and look for hasplms (Windows) or hasplmd (Linux and Mac). On Windows, all running processes can be found in the Windows Task Manager. On Linux and Mac, the running processes can be obtained by using the “`ps –ef`” command from the command shell. Ensure the latest version of the FLEXID9 dongle runtime driver is installed on the machine. If there is no multiple dongle support after installing the driver, try to reboot the machine.

- Multiple keys were present and some are no longer detected.

  Unplug all the FLEXID9 keys. Plugin a single key and see if the lmhostid utility lists an entry for the key. This enables you to determine which key is not detected. Then, follow the step (1) above, to rectify the problem.

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