

iKey Driver Windows Installer Support

This document contains information on support for the Windows Installer (MSI) for Windows 2000 and Windows XP for versions 3.4.7 and later of the iKey driver.

Overview

The iKey driver installer installs the iKey device drivers and libraries used by applications that support iKeys.

When you are ready to distribute your iKey application to your end users, there are several ways to include the iKey driver installation program.

You can either send the *keydrv.exe* file to your users for them to install directly on their computers, or you can use the appropriate command-line options to call the iKey driver installer from your own application installer.

We support calling the iKey driver installer from Install Shield installers (using the appropriate iKey driver *.exe* file for your Windows platform) and Windows installers (using the *keyDrv2kXP.msi* file).

For More Information

- This document contains information on Windows Installer support only—for information on installing the iKey driver using Install Shield installers instead, see Chapter 9 of the *iKey 1000 Series Developer's Guide* for versions 2.2 and later of the iKey 1000 SDK or the SafeNet Technical Note #2123, "iKey Driver Installer Command-line Options," available from SafeNet Technical Support.
- The iKey Driver Installer program installs only the iKey driver and API libraries. If you need additional iKey components in order for your application to work, you should use the iKey Components Installer (*iKeyAll.exe*). See the *iKey 1000 Series Developer's Guide* for more information about the iKey Components Installer.
- For information on the latest version of the iKey driver, including information on compatibility, known problems, and problems fixed, see the current *iKey Driver Release Notes*.

Windows Installer Command-line Options

For Windows 2000 and Windows XP, you can include iKey driver installation in the Microsoft Windows Installer by using the command-line options discussed below. Note that this version of the iKey driver does not provide Windows Installer merge modules.

Note: For details on using the Windows Installer, see www.msdn.microsoft.com.

Calling the iKey Driver Installer

The iKey driver installer program (*iKeyDrvr2kXP.msi*) may be included in your main application Windows Installer to install the iKey driver and API libraries.

The syntax for calling the iKey Driver Installer from Windows Installer is as follows:

```
MSIEXEC.EXE [setup options] iKeyDrvr2kXP.msi [installation options][custom options]
```

Note that setup options follow the Windows Installer executable, *MSIEXEC.EXE*, and are before the iKey driver installer, *iKeyDrvr2kXP.msi*. Any custom options should follow the installation options.

MSI Setup Options

These options are Windows Installer options, and are not case sensitive.

- **/x** – Uninstalls the specified package (iKey driver). If specified, the following installation options are valid: **/L*** and **/qn**. See “MSI Installation Options” on page 2. Also see “Common iKey Driver Installer Command-line Option Combinations” on page 4 for sample uses of this option.
- **/I** – Installs the specified package (iKey driver). If specified, you may include any of the installation options and custom options discussed in “MSI Installation Options” on page 2 and “iKey Driver Custom Options” on page 2. See “Common iKey Driver Installer Command-line Option Combinations” on page 4 for sample uses of this option.

MSI Installation Options

These options are Windows Installer options, and are not case sensitive.

- **/L* <Logfile name with path>** – If this option is included, then a log file is created in the path specified in **<Logfile name with path>**. The path defined must be an absolute path, without a trailing backslash character. The path must be defined as a short path (DOS 8.3).
- **/qn** – This option causes the installer to run in silent mode; that is, no user interface is displayed to the user.

iKey Driver Custom Options

- **DRVR_FLAGS** – Defines the option on Windows 2K/XP driver to enable and disable power-up smart card base tokens when resumed from the suspend mode. It is not supported by Windows NT/98/ME operating system. Windows 2000 and Windows XP are the platforms supporting this option. The options are:
 - **VR=RSO**N – Enables the power-up feature.

- ❑ **VR=RSOFF** – Disables the power-up feature.

Note: **Syntax:** : [DRVR_FLAGS =RSON|RSOFF]

- **VR = ON | OFF** – Determines if the iKey Virtual Readers will be created for a PC/SC environment. The options are:

- ❑ **VR=ON** – Creates virtual readers for a PC/SC environment.
- ❑ **VR=OFF** – Does not create virtual readers. Driver will run in legacy mode.

If VR=ON, the number of readers to create may optionally be defined by the READERS option. If the READERS option is not defined, the default number of readers (4) are created.

Note: The argument for VR (ON or OFF) must be in upper case.

If this option is not defined, the default is used based upon the state of any previous installation of the driver. If the installation is a first time install, the default mode is VR=ON. If an installation already exists, then the current settings of the existing installation are used.

- **READERS=<number of readers>** – Defines the number of readers to create. This value is optional. The default is 4.

This option sets the VR=ON option if it is not already specified. If the VR option is set to VR=OFF, this parameter is ignored and no readers are created.

The number of readers per platform is defined as:

- ❑ Windows 2000 – Minimum of 1 and maximum of 32.
- ❑ Windows XP – Minimum of 1 and maximum of 32.

If the <number of readers> specified exceeds the maximum supported by the platform, the number of readers created is set to the maximum value for the specified platform. Also, if the <number of readers> is less than the minimum number of readers supported by the platform, the number of readers created is set to the minimum value for the specified platform.

For Windows 2000 and Windows XP, the maximum number of readers supported by the iKey Driver Installer is limited to 32 total readers. The number of available iKey readers that can be created is limited to the current number of installed smart card readers minus 32. It is possible that no iKey readers will be created if there are already 32 smart card readers installed. In this case, the driver will install for non-PC/SC support.

- **LED_FLASH_CYCLE=<cycleFactor>** – Defines the flashing LED parameters for digital signing operations for special tokens. The <cycleFactor> parameter defines the 3/4 duty cycle time to flash, in multiples of 32.7ms. The valid range is from zero (0) to 255. A value of zero (0) will disable flashing. A value of -1 will use the default flashing parameters. If this option is not defined, then the default flashing mode is set to disabled (0).

For example, for a 100ms 3/4 duty cycle time (time ON or OFF), the <cycleFactor> would be (100/32.7), or 3.

If this value is set to the default, -1, then the 3/4 duty cycle time will be set to 100ms and the total flashing duration will be set to 3 seconds.

If neither this parameter nor the LED_FLASH_DURATION parameter are defined, then the flashing mode defined by the current installation is used. If no current installation and/or flashing mode exist, then the default -flashing mode is set to disabled, (0).

If either this parameter or the LED_FLASH_DURATION parameter is zero (0), then flashing will be disabled.

If either this parameter or the LED_FLASH_DURATION parameter is set to the default, -1, and both parameters are non-zero, then the default flashing parameters will be used.

- **LED_FLASH_DURATION=<duration>** – Defines the flashing LED parameters for digital signing operations for special tokens. The parameter defines the total number of 3/4 cycles to flash. The valid range is from zero (0) to 255. A value of zero (0) will disable flashing. A value of -1 will use the default flashing parameters.

For example, to flash the LED at a 100ms 3/4 duty cycle (time ON or OFF) for a total period of 3 seconds, the <duration> would be $(3000/(100))$, or 30.

If this value is set to the default, -1, then the 3/4 duty cycle time will be set to 100ms and the total flashing duration will be set to 3 seconds.

If neither this parameter nor the LED_FLASH_CYCLE parameter are defined, then the flashing mode defined by the current installation is used. If no current installation and/or flashing mode exist, then the default -flashing mode is set to disabled, (0).

If either this parameter or the LED_FLASH_CYCLE parameter is zero (0), then flashing will be disabled.

Notes about the iKey Driver Custom Command Line Options

- The option command names are not case-sensitive except for the VR option, which requires an upper case argument.
- Applications that require the iKey driver to operate in PC/SC mode **must** pass in the VR=ON parameter to enable PC/SC support for the iKey driver.

Common iKey Driver Installer Command-line Option Combinations

The following are examples of the most commonly used command line option combinations.

Default Installation

Installs the driver using the default setup options.

Command Line	Description
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI	Installs the driver using the default options and displays the user interface.
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI /qn	Installs the driver using the default options and hides the user interface.
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI /L* <LogFile name with path>	Installs the driver using the default options and displays the user interface, creating the specified log file in the specified location.

PC/SC Installation

Installs or configures the driver for PC/SC. If the latest version of the installer is already present, these options may be used to change the configuration of the driver (for example, turn VR on if it is currently off, and/or set the number of readers to create).

Command Line	Description
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI VR=ON	Installs or configures the driver for PC/SC environments and displays the user interface. The default number of readers is set to four.
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI /qn VR=ON	Installs or configures the driver for PC/SC environments and hides the user interface. The default number of readers is set to four.
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI /qn VR=ON /L* <Logfile name with path>	Installs the driver for PC/SC environments and hides the user interface. The default number of readers is set to four. A log file is created in the specified location using the specified name.
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI VR=ON READERS=1	Installs or configures the driver for PC/SC environments and displays the user interface. The default number of readers is set to one.
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI /qn VR=ON READERS=1	Installs or configures the driver for PC/SC environments and hides the user interface. The default number of readers is set to one.
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI /qn VR=ON READERS = 1 /L* <Logfile name with path>	Installs or configures the driver for PC/SC environments and hides the user interface. The default number of readers is set to one. A log file is created in the specified location using the specified name.

Legacy Installation

Installs or configures the driver for legacy mode (non-PC/SC). If the latest version of the installer is already present, these options may be used to change the configuration of the driver (for example, turn VR off if is currently on).

Command Line	Description
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI VR=OFF	Installs or configures the driver for legacy mode and displays the user interface.
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI /qn VR=OFF	Installs or configures the driver for legacy mode and hides the user interface.
MSIEXEC.EXE /I IKEYDRVR2KXP.MSI /qn VR=OFF /L* <LogFile name with path>	Installs or configures the driver for legacy mode and hides the user interface. A log file is created with the specified name in the specified location.

Uninstallation

Uninstalls the iKey driver.

Command Line	Description
MSIEXEC.EXE /x IKEYDRVR2KXP.MSI	Uninstalls the driver and displays the user interface.
MSIEXEC.EXE /x IKEYDRVR2KXP.MSI /qn	Uninstalls the driver and hides the user interface.
MSIEXEC.EXE /x IKEYDRVR2KXP.MSI /qn /L* <LogFile name with path>	Uninstalls the driver and hides the user interface. A log file is created with the specified name in the specified location.

Files Installed by the iKey Driver Installer

The following files are installed by the iKey Driver Installer on Windows 2000 and Windows XP:

- *readme.txt*
- *license.txt*
- *rnbtokens.sys*
- *rnbtokens.inf*
- *rnbtokens.cat*
- *ikeyifd.sys*
- *ikeyenum.sys*
- *iKeyAPI.dll*
- *iKey2K.dll*
- *iKeyDI.dll*
- *iKeyUI.dll*

Contacting SafeNet Technical Support

SafeNet Inc., is committed to supporting the iKey driver. If you have questions, need additional assistance, or encounter a problem, please contact SafeNet Technical Support using one of the methods listed in the following table

Technical Support Contact Information

Customer Connection Center (C³)	
http://www.safenet-inc.com/support/index.asp	
Americas	
Internet	http://www.safenet-inc.com/support/index.asp
E-mail	techsupport@safenet-inc.com
United States	
Telephone	(800) 959-9954
Fax	(949) 450-7450
Europe	
E-mail	EUTechSupport@safenet-inc.com
France	
Telephone	0825 341000
Fax	44 (0) 1932 570743
Germany	
Telephone	01803 (7246269)
Fax	44 (0) 1932 570743
United Kingdom	
Telephone	0870 7529200
Fax	44 (0) 1932 570743

Technical Support Contact Information (Continued)

Pacific Rim	
E-mail	techsupportpacrim@safenet-inc.com
Australia and New Zealand	
Telephone	(61) 3 9882 8322
Fax	(61) 3 9882 0588
China	
Telephone	(86) 10 8851 9191
Fax	(86) 10 6872 7342
India	
Telephone	(91) 11 2691 7538
Fax	(91) 11 2633 1555
Taiwan and Southeast Asia	
Telephone	(886) 2 6630 9388
Fax	(886) 2 6630 6858

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