

## e-gate USB Smart Card

### *Driver Install Notes (Windows 2000/XP)*

By downloading software from the Reflex Readers Download web site, you agree to the terms and conditions of the e-gate Smart Card Driver License Agreement. Please read the agreement before downloading.

The following information is available in this document:

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## Supported Platforms

The e-gate USB 2.4 drivers were tested on the following platform versions:

- Windows 2000 Professional (Service Pack 4)
- Windows XP Professional (Service Pack 1). In addition, we strongly recommend that you install the *Microsoft 822603 USB driver update*, which addresses power management and plug-and-play anomalies, on Windows XP (SP1) systems.

We recommend that you install the specified versions.

## Package Contents

File	Description	Version
egate.sys	System file	2.4.0.0
egate.cat	Security catalog	
egate.inf	Setup information	
egatebus.sys	System file	2.4.0.0
egatebus.cat	Security catalog	
egatebus.inf	Setup information	
egaterdr.sys	System file	2.4.0.0
egaterdr.cat	Security catalog	
egaterdr.inf	Setup information	
egdrvins1.dll <sup>1</sup>	Co-installer file	2.4.0.0
slbmjpg.dll	Virtual Reader Enumerator property page	
egate_W2K_README.pdf	<i>e-gate USB Smart Card Driver Install Notes (Windows 2000/XP)</i>	
egateDrivers_InstallUpdate DowngradeNotes.pdf	<i>Installing/Updating/ Downgrading/Uninstalling Drivers</i>	
egate2_4_RelNotes.pdf	<i>e-gate 2.4 Release Notes</i>	
egate_License.txt	License Agreement	

<sup>1</sup> Note that the although the co-installer filename changed from egdrvins.dll in v.2.0 to egdrvins1.dll in v.2.4., the co-installer file content did not change. The filename changed because of a requirement of the Windows driver installation architecture.

## About e-gate USB Connectors

The e-gate technology embeds the USB interface electronics normally found in a smart card reader within the card itself. Therefore, an e-gate USB Smart Card does not require a smart card reader. The e-gate USB Smart Card simply plugs into a USB port on the computer using one of these two connector types:

- A token form factor connector if the card is used in its cut-down token format.
- A desktop form factor connector if the card is used in standard smart card format. (An e-gate USB Smart Card in standard smart card format also works with ISO 7816-3 compliant terminals and readers; that scenario falls outside the scope of this document.)

For more information about the e-gate USB connectors, including how to plug them in, see the *e-gate USB Smart Card Installation Guide*, available from the Reflex Reader Technical Support website, [www.reflexreaders.com/Support/support.html](http://www.reflexreaders.com/Support/support.html).

## About e-gate USB Drivers

The e-gate USB Smart Cards use a system of interdependent drivers, and each driver corresponds to a different type of device in the Device Manager.

- **egatebus.sys**, which corresponds to the “e-gate Virtual Reader Enumerator” device under the “e-gate Virtual Reader Enumerators” device type.
- **egate.sys**, which corresponds to one or more “e-gate USB Smart card reader” devices under the “e-gate Smart card readers” device type.
- **egaterdr.sys**, which corresponds to one or more “e-gate USB Smart Card” devices under the “e-gate USB Smart Cards” device type.

For more information about the interdependent e-gate USB drivers, see the *e-gate USB Smart Card Installation Guide*, available from the Reflex Reader Technical Support website, [www.reflexreaders.com/Support/support.html](http://www.reflexreaders.com/Support/support.html).

## Installation and Update Instructions

**NOTE** *The Microsoft Smart Card Base Components are pre-installed on Windows 2000, Windows XP, and Windows Server 2003 systems; do **not** reinstall the Microsoft Smart Card Base Components.*

- 1 Download and extract the driver package in any available space on your system (for example, in a `\downloads` directory). This is a location for the driver software that you will identify when you configure the e-gate USB Smart Card to use the drivers.
- 2 Attach an e-gate USB Smart Card to the computer. If you are using a desktop form factor connector, plug the connector into an available USB port, and then insert an e-gate USB Smart Card into the connector. If you are using a cut-down token form factor connector, insert an e-gate token into the connector, and then plug the connector into an available USB port.
- 3 *If this is an initial installation*, the Found New Hardware wizard launches as soon as you insert the e-gate USB Smart Card into the connector. The wizard guides you through the process of locating the e-gate USB Smart Card drivers:

- a On Windows 2000, select “Display a list of the known drivers for this device so that I can choose a specific driver.” On Windows XP, select “Don't search. I will choose the driver to install.”
- b In the Select a device driver screen, click **Have Disk ...**, and then navigate to the directory into which you extracted the downloaded driver files. The wizard uses information contained in the *egate.inf* file to install all the e-gate driver files.

If you need more information about using the wizard to complete this task, refer to the operating system's Help.

The e-gate USB Smart Card is ready to use without rebooting the system.

- c Your computer is now configured for one e-gate USB Smart Card. If you want to connect to more than one e-gate USB Smart Card concurrently, you can simply attach one or more additional e-gate USB Smart Cards to the computer. The system automatically creates a virtual e-gate Smart Card Reader device each time you attach an additional e-gate USB Smart Card to the computer.

You also have the option to set the Virtual Reader Enumerator maximum count number to a value greater than 1, so that when the computer is booted, some number of e-gate USB Smart Card Reader devices (to a maximum of ten) is created. See “Configuring the e-gate Virtual Reader Enumerator,” on page 6 for more information.

If you reset the Virtual Reader Enumerator maximum count value, you must reboot the computer.

*If this is an update of the drivers*, use the Upgrade Device Driver wizard (on a Windows 2000 system) or the Hardware Update wizard (on a Windows XP system) to configure the host system to point to the new drivers:

- a** Before beginning the upgrade, ensure that your e-gate USB Smart Card is inserted into an e-gate connector. If the system is configured for more than one concurrent e-gate USB Smart Card connection, ensure that an e-gate USB Smart Card is inserted into each configured e-gate connector.
- b** Open the Device Manager. On Windows 2000, select **Start** → **Settings** → **Control Panel**. Double-click **System**, click the **Hardware** tab, and then click the **Device Manager** button. On Windows XP (Classic View), select **Start** → **Control Panel**. Double-click **System**, click the **Hardware** tab, and then click the **Device Manager** button.
- c** In the Device Manager, expand the e-gate USB Smart Cards device type, and then double-click the e-gate USB Smart Card device listed to open its Properties. (If more than one device is listed under the e-gate USB Smart Cards device type, double-click any one of the e-gate USB Smart Card devices.) In the device’s Properties, click the **Driver** tab, and then click the **Update Driver** button.
- d** The Upgrade Device Manager (on a Windows 2000 system) or Hardware Update wizard (on a Windows XP system) is launched and guides you through the process of locating the new e-gate USB Smart Card drivers. On Windows 2000, in the Upgrade Device Driver wizard, select “Display a list of the known drivers for this device so that I can choose a specific driver.” On Windows XP, in the Hardware Update wizard, select “Install from list or specific location (Advanced),” click **Next**, and then click “Don’t search. I will choose the driver to install.”

- e In the Select a device driver screen, click **Have Disk ...**, and then navigate to the directory into which you extracted the downloaded driver files. The wizard uses information contained in the *egate.inf* file to update the e-gate driver files.

If you need more information about using the wizard to complete this task, refer to the operating system's Help.

- f At the conclusion of the upgrade, you will be prompted to reboot the system.

## Configuring the e-gate Virtual Reader Enumerator

In the current e-gate USB driver architecture, if you will be connecting multiple e-gate USB smart cards to the computer, you have the option to simply plug in additional cards and let the system automatically add them as devices and associate them with virtual e-gate USB Smart Card Reader devices, a feature called *automatic enumeration*. In this scenario, the system goes through a plug-and-play discovery sequence when you plug in an e-gate USB smart card; if there is no available e-gate USB Smart Card Reader device, the system adds a e-gate USB Smart Card Reader device to be associated with the new card. This option offers the advantage of not requiring you to perform any manual configuration tasks associated with adding additional e-gate USB smart cards to the system.

Alternatively, you have the option to configure the system to automatically create some number (to a maximum of ten) of e-gate USB Smart Card Reader devices each time you boot the computer, even if those devices are not attached to the computer at boot time. The advantage of this scenario is that the plug-and-play discovery sequence for the preset number of e-gate USB Smart Card Reader devices happens at boot time, so when you attach the e-gate connector and plug in the card, there is no post-insertion delay before the card becomes active.

Here are instructions about preconfiguring the number of virtual e-gate USB Smart Card Reader devices to create each time the computer is rebooted.

## Setting the Virtual Reader Enumerator Count

The e-gate Virtual Reader Enumerator device's property sheet defines the number of e-gate USB Smart Card Readers to create when the computer is booted.

**NOTE** *Because each e-gate USB Smart Card requires a separate e-gate connector at the time it is in use, the e-gate Virtual Reader Enumerator maximum count number is usually set to the maximum number of e-gate connectors expected to be attached to the computer at one time.*

These are the steps to configure the number of virtual e-gate USB Smart Card Readers:

- 1** Open the Device Manager. On Windows 2000, select **Start** → **Settings** → **Control Panel**. Double-click **System**, click the **Hardware** tab, and then click the **Device Manager** button. On Windows XP (Classic View), select **Start** → **Control Panel**. Double-click **System**, click the **Hardware** tab, and then click the **Device Manager** button.
- 2** In the Device Manager, expand the e-gate Virtual Reader Enumerators device type, and then double-click the **e-gate Virtual Reader Enumerator** device to open its Properties.
- 3** In the device's Properties, click the **e-gate Readers** tab.
- 4** Use the size arrows to change the maximum count value from the default, which is 1. The maximum allowable value is 10. After you have selected a value, click **OK**. Close the property sheet and the Device Manager.
- 5** Reboot the computer.

**NOTE** *Each e-gate USB Smart card reader device uses system resources; therefore, we recommend that you configure the maximum count to the number of concurrently active e-gate USB Smart Cards you anticipate you will need, and no more.*

## Installation and Update Tips

### If Found New Hardware Wizard Can't Find Drivers in Download Location

When you manually install drivers, you download the driver files to an initial location on your system (for example, *\downloads*), and then identify this location in the Found New Hardware wizard when you install the drivers. If the files are subsequently removed from the original download location, and the Found New Hardware wizard is launched and prompts for a file location, point to the *\$WINDOWS\system32\drivers* directory.

### Driver Version Identification Following Update

On all platforms, after updating e-gate drivers, follow these steps to accurately identify driver version number information:

- 1 Start the Device Manager. On Windows 2000, select **Start** → **Settings** → **Control Panel**. Double-click **System**, click the **Hardware** tab, and then click the **Device Manager** button. On Windows XP (Classic View), select **Start** → **Control Panel**. Double-click **System**, click the **Hardware** tab, and then click the **Device Manager** button.
- 2 In the Device Manager, expand the device type that includes the e-gate driver whose driver version number you want to check, and then double-click the name of the device to open its Properties. For example, to check the version number of the e-gate USB Smart Card Reader driver, expand the Smart card reader device type, and then double-click **e-gate USB Smart Card Reader**.
- 3 In the device's Properties, click the **Driver** tab, and then click the **Driver Details...** button.
- 4 The File version number displayed in the Driver File Details dialog correctly describes the current driver.

### Do Not Install e-gate Drivers from Cyberflex Access Kits after Installing from Downloads Site

If you install e-gate software drivers from the Reflex Readers Downloads site and subsequently install the Cyberflex Access Software Development Kit or Integration Kit, deselect the **e-gate Smart Card Drivers** option in the Custom Setup panel when you specify which components of the Kit to install.



The drivers on the Downloads site are always the latest available drivers, so this practice avoids issues that can result from inadvertently overwriting newer drivers with older drivers.

## **Known Issues and Limitations**

### **Device State Might Not be Maintained on Older BIOS Systems**

On systems on which the BIOS does not correctly support integrated power management through an Advanced Configuration and Power Interface (ACPI) BIOS, device state might not be correct when returning from standby mode. Depending on how your application interacts with the SCRM, communication with the card might not be possible following resume from standby mode. In this case, you might need to remove and then reattach the e-gate USB Smart Card.

### **Standby/Resume Behavior Anomalies**

If your e-gate USB Smart card is inserted when the system goes into hibernate or standby mode, and the card is still inserted when the system resumes, the card inserted state might not be correct. In this case, you might need to remove and then reattach e-gate USB Smart Card.

### **e-gateUSB: Desktop Form Factor Power Light**

The e-gate desktop form factor connector's power light glows steadily at two different points while a card is in the process of being inserted into the connector. (In addition, the power light glows steadily at the same points when the card is being removed from the connector.) This behavior should not be taken as a signal that the card is completely inserted; in fact, the card must be fully inserted and seated in the desktop form factor connector to communicate with the host system. When the card is fully inserted, the power light flickers briefly as the system detects the card.

## **Additional Documentation Resources**

For information about installing the connector hardware, understanding the interconnected e-gate drivers, and troubleshooting installation or operation problems, see the *e-gate USB Smart Card Installation Guide*, available from the Reflex Reader Technical Support website, [www.reflexreaders.com/Support/support.html](http://www.reflexreaders.com/Support/support.html).

Additional information about installing, updating, downgrading, and uninstalling e-gate USB Smart Card drivers on Windows 2000 and Windows XP is available in the *Installing/Updating/Downgrading/Uninstalling Drivers* document found in the driver package (file name *egateDrivers\_InstallUpdateDowngradeNotes.pdf*).

Changes in the e-gate USB Smart Card drivers since release of the version 2.0 drivers for Windows 2000/XP are listed in the *e-gate USB 2.4 Release Notes* document found in the driver package (file name *egate\_2\_4\_RelNotes.pdf*).

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