

Reflex 20 Firmware Upgrade Utility README

This README contains instructions for updating the firmware that enables a SchlumbergerSema Reflex 20 smart card reader to work successfully with installed software drivers.

The SchlumbergerSema Reflex 20 Firmware Upgrade utility is available from the Reflex Reader Technical Support website (www.reflexreaders.com/Support/support.html).

The Reflex 20 Firmware Upgrade utility supports the following operating systems:

- Microsoft Windows 98
- Windows Me
- Windows NT 4.0
- Windows 2000
- Windows XP Professional

The upgrade utility supports the SchlumbergerSema PCMCIA Reflex 20 smart card reader.

Firmware Upgrade Files

The version 1.0.0.3 Firmware Upgrade utility includes these files:

- *SlbSemaFWUpgrade.exe* v1.0.0.3 (executable upgrade utility)
- *blr241bk1.des* (DES encrypted firmware upgrade file)
- *blr241bk2.des* (DES encrypted firmware upgrade file)
- *blr241bk3.des* (DES encrypted firmware upgrade file)
- *blr241bk5.des* (DES encrypted firmware upgrade file)
- *blr241bk6.des* (DES encrypted firmware upgrade file)

The files in the download zip (*SlbSemaFWUpgradeV1003.zip*) may be extracted anywhere; however, the *.des* files must be extracted into the same directory as the executable.

Firmware Upgrade Pre-requisites

The following software must be installed on the system for the upgrade to be successful:

- Microsoft Smart Card Base Components (available from the Reflex Reader Technical Support website)
- SchlumbergerSema Reflex 20 smart card reader drivers with the following versions:
 - Windows 98 (Second Edition)/Windows Me: v1.27s or later
 - Windows NT 4.0 (Service Pack 6): v1.31.0.0 or later
 - Windows 2000 (Service Pack 2)/Windows XP Professional: v2.0.1 or later

NOTE *Microsoft default drivers are not valid to update SchlumbergerSema smart card reader firmware. The driver must be issued by SchlumbergerSema.*

- The DES encrypted firmware upgrade file provided with the Update utility

Upgrading the Firmware

The upgrade utility can be executed either of these ways:

- In Windows Explorer, by double-clicking the name of the executable, *SlbSemaFWUpgrade.exe*. This method automatically runs the utility with no parameters.
- From the command line. Using this method, the parameters listed in the table below are available.

Parameter	Description
-s	If invoked, forces the user to upgrade if the upgrade utility detects that a Reflex 20 smart card reader with old firmware is attached to the machine.
-v	Runs the utility to detect and display the current firmware version of all attached Reflex 20 smart card readers, but does not attempt to update the firmware.
-o	Runs the utility without writing to the <i>FWUpgrade.log</i> output file.
-f	To designate which firmware upgrade (<i>.des</i>) file to use during the upgrade. Takes <i>path\filename</i> as an argument. Note that the <i>path\filename</i> must not exceed 256 characters. (If no file is specified, the utility automatically chooses the newest version.)

This is the syntax to run the upgrade utility from the command line (from the directory in which the executable is installed):

```
SlbSemaFWUpgrade.exe [-s | -v | -o | -f] path\filename
```

for example:

```
SlbSemaFWUpgrade.exe -s
```

```
SlbSemaFWUpgrade.exe -f \temp\blr241bk2.des
```

The parameters may be used together in any order.

Informational and Warning Messages

Informational and warning messages are displayed while the utility is running. Unless logging is turned off, the messages are also written to an ASCII log file, *FWUpgrade.log*, which is located in the same directory as the executable.

The informational messages confirm that the utility is searching the system for Reflex 20 smart card readers and drivers. If the system detects that a Reflex 20 smart card reader is attached to the system, that the system has outdated firmware, and that the system has the necessary drivers installed to support the new firmware, and then upgrade is appropriate.

If the utility is being run without the **-s** flag, you are asked to confirm that the upgrade for the first Reflex 20 smart card reader detected should proceed. If user interaction has been turned off (by running the utility with the **-s** flag), upgrade begins automatically.

While the upgrade is running, a progress bar is displayed. Each upgrade can take several minutes to finish and *must* be allowed to complete.



During installation, the utility displays these warnings:

DO NOT power off the machine
DO NOT remove the smart card reader from the machine
DO NOT close the firmware upgrade tool

If one of these actions is taken during the upgrade (the progress bar is displayed while the upgrade is running and a message confirms when the upgrade is complete), the Reflex 20 smart card reader will be left in an unusable, unrecoverable state.

When the utility has finished the firmware upgrade, a message confirming that the upgrade is complete appears. If additional Reflex 20 smart card readers are installed, after the utility has finished upgrading the firmware for the first Reflex 20 smart card reader, it asks for confirmation that it should install the upgrade for the next Reflex 20 smart card reader detected, as well.

After the update utility has completed, the following actions complete the upgrade task:

- If the operating system is Microsoft Windows 98, Windows Me, or Windows NT 4.0, reboot the machine to restart the resource manager and for the Reflex 20 smart card reader's upgraded firmware to be recognized.
- For Windows 2000 and XP systems, eject the Reflex 20 smart card reader, and then re-insert it so that the new firmware can be recognized.

Firmware Upgrade Problems

- If the update (.des) files are not located in the same directory as the *SlbSemaFWUpgrade.exe* file, the upgrade fails and an informational message warns that the utility cannot find the upgrade file. Copy the upgrade file to the directory in which the executable will run.
- If an application that uses the smart card service is running when you try to run *SlbSemaFWUpgrade.exe*, the upgrade fails. Stop all such services before starting the upgrade.
- Error 6a80 (similar to the following):

```
Control word error! Please check if your file is correct!
```

appears if the utility was run successfully, but the upgrade task was not completed. For Windows 98, Windows Me, or Windows NT 4.0 systems, complete the task by rebooting. For Windows 2000 or Windows XP systems, eject and then re-insert the Reflex 20 smart card reader.
- DO NOT interrupt the upgrade while it is in progress. Do not power off the machine or remove the Reflex 20 smart card reader from the machine or close the firmware upgrade utility for any reason during the upgrade (the progress bar is displayed while the upgrade is running and a message confirms when the upgrade is complete). If you interrupt the upgrade, the Reflex 20 smart card reader will be left in an unusable, unrecoverable state.