



## RELEASE NOTES PREBOOT AUTHENTICATION DRIVERS AND DLLS KIT (PBA DDK) REVISION 4.4.210.05

### SENSORS SUPPORTED

This release of the Drivers and Dlls kit (DDK) for Microsoft Windows® supports the following Validity Sensors models:

VFS5111  
All VFS300 Family

### SOFTWARE

This release is compatible with the 32-bit and 64-bit versions of Windows 8.1®, Windows 8®, Windows 7®, Windows Vista® and Windows® XP.

Validity Sensors Add/Remove Programs (ARP) version is **4.4.210.05**.

Validity Sensors software build version is **4.4.210.05**.

### FIRMWARE

The firmware version is hardware dependent.

#### VFS5111

The firmware version for VFS 5111 sensors is **4.30**. The firmware patch level is **11**. Firmware reports '**04.30.11.0078 Raptor ROM [VSI 13A Hitachi USB]**'.

#### VFS300 FAMILY

For sensors with 4.00 firmware, the current (boot) patch level is **04**. A VFS300 or VFS301 with **4.00** firmware reports '**04.00.04.0050 Falcon ROM [VSI 09A Hitachi USB]**'.

The following configurations are supported for USB sensors:

**Swipe speed:** 10 or 15 cm/sec  
**SO frequency:** 18 or 24 MHz  
**Flex ID:** 14

### DEVICE DRIVER

#### VFS5111

The device driver is the WHQL-certified for windows 8.1 WinUSB driver from Microsoft, WinUSB.sys, and is version **2.3.0.0** and is dated **07/05/2012**.

#### VFS300FAMILY

The device driver is the WHQL-certified for Windows 8.1 WinUSB driver from Microsoft, WinUSB.sys, and is version

**2.1.0.2** and is dated **05/04/2009**.

This device driver replaces the previous device drivers, including both version 2.0.1.1 dated **11/24/2008**, version **2.0.0.1** dated **4/15/2008** and version **1.3.1.183** dated **2/6/2008**.

## **VFS\_PBA\_SDK\_4\_4\_210\_5\_20130816**

See Enhancements and Errata History below for cumulative changes.

### **ENHANCEMENTS**

1. Added WHCK'd for windows 8.1 WinUSB Drivers for VFS5111 Fingerprint Reader.

## **ENHANCEMENTS AND ERRATA HISTORY**

### **VFS\_PBA\_SDK\_4\_4\_210\_5**

#### **ENHANCEMENTS**

1. Fix for the issues "Rarely swipes not triggered around 10 to 20 seconds at windows logon screen, After PBA login with password authentication" & "Swipes are not triggered after resuming from S4."

### **VFS\_PBA\_DDK\_4\_4\_210\_04**

#### **ENHANCEMENTS**

1. Fix for system hang issue while pressing 'Alt+S' key at PBA screen to switch password interface

### **VFS\_PBA\_DDK\_4\_4\_210\_02**

#### **ENHANCEMENTS**

1. Fix for Get Credential option in Val ASUS PBA Demo application

### **VFS\_PBA\_DDK\_4\_4\_210**

#### **ENHANCEMENTS**

1. Added support for VFS5111 sensor

### **VFS\_PBA\_DDK\_4\_1\_329**

#### **ENHANCEMENTS**

1. Fix for Sleep resume issue
2. Other Bug Fixes

Note: To verify this fix (fix for sleep resume issues) we need latest Wave software also, as Wave also fixed an issue in their code.

### **VFS\_PBA\_DDK\_4\_1\_328**

#### **ENHANCEMENTS**

1. Changes to EFI loader module to address driverbinding:start getting called twice (reported by ASUS)
2. Changes to ASUS DDK/ SDK package to prompt user while uninstallation with following message ***"Do you want to clean the fingerprint and fingerprint authentication password in sensor flash ROM?"***
3. Other Bug Fixes

## **VFS\_PBA\_DDK\_4\_1\_325**

### **ENHANCEMENTS**

1. Changes to loader module to reduce execution time in case of not loading EFI main driver (When PBA flag is not set or enrolled user count is 0). With modifications time was reduced to 12ms from 285 ms.

## **VFS\_PBA\_DDK\_4\_1\_324**

### **ENHANCEMENTS**

1. In EFI main driver Changed VerifyFAPEX functionality to loop through all existing user records and if passed in FAP matches with any of the FAP associated with any of the user record then it returns successful match
2. Added VerifySAPEX back to the EFI ASUS protocol definition. Added verify SAP test case to EFI test application

### **ERRATA**

1. Sometimes SSO feature may fail to work while resuming from Hibernate.

## **VFS\_PBA\_DDK\_4\_1\_321**

### **ENHANCEMENTS**

1. Added new option for FAP verification in EFI driver
2. Minor bug fixes.

## **VFS\_PBA\_DDK\_4\_1\_319**

### **ENHANCEMENTS**

1. Fixed the following two issues reported by ASUS
  - a. SetBIOSData for all users not functioning correctly
  - b. Returning wrong payload data for SSO usage
2. Other minor bug fixes.

## **VFS\_PBA\_DDK\_4\_1\_318**

### **ENHANCEMENTS**

1. Added SetBIOSData new interface
2. Changes to VerifyFingerprintEx function to return BIOS Data value of the Identified user
3. Created new protocol definition EFI\_ASUS\_FINGERPRINT\_AUTH\_PROTOCOL\_EX to support SetBIOS data interface
4. Finger print main Driver Installs old (EFI\_ASUS\_FINGERPRINT\_AUTH\_PROTOCOL) and new protocols (EFI\_ASUS\_FINGERPRINT\_AUTH\_PROTOCOL\_EX) to support backward compatibility
5. VerifySAP/VerifySAPEXReturns status as EFI\_SECURITY\_VIOLATION if entered password is not matched
6. Modified test application to load the new protocol (AsusProtocolTest.efi) only
7. Modified AsusProtocolTest.efi to ask for system access password when Erase sensor option is selected from EFI shell. If password (SAP) is not set or entered password is wrong Erase Sensor Flash returns with error.

8. Added another option (5. SetBIOSDataForAll) to AsusProtocolTest.efi to set the bios data value for all enrolled users.
9. Modified vcsWavePbaTest.exe (Validity Asus PBA Demo) to display EFI Image version

#### **VFS\_PBA\_DDK\_4\_1\_317**

##### **ENHANCEMENTS**

1. Added FW 4.0 GetPrint+WOVAR patch to fix an issue where the sensor would not always properly resume from selective suspend.

#### **VFS\_PBA\_DDK\_4\_1\_316**

##### **ENHANCEMENTS**

1. Fix for EFI Driver image update during Validity Software Upgrade
2. Installer modifications to persist the PBA flag state while upgrade the Validity Software
3. Modification to support 3<sup>rd</sup> party app changes for PBA & SSO authentications

#### **VFS\_PBA\_DDK\_4\_1\_312**

##### **ENHANCEMENTS**

1. Addressed the requirement to remove the Device entry from Device Manager during un-installation of Validity Software on Vista and Windows 7

##### **ERRATA**

1. Disable PBA flag, sometimes may not work on Windows XP Platforms, we will try to fix this in next release

#### **VFS\_PBA\_DDK\_4\_1\_311**

##### **ENHANCEMENTS**

1. Enabled Client DLL authentication.
2. Below utilities are provided additionally  
vcsDisablePBA.exe – Disables PBA Flag when uninstallation of Validity Software
3. Updated vcsWavePba DLL to provide credential information only at first time.

##### **ERRATA**

1. Disable PBA flag, some times may not work on 32 bit Platforms, we will try to fix this in next release

#### **VFS\_PBA\_DDK\_4\_1\_310**

##### **ENHANCEMENTS**

1. Minor bug fixes

#### **VFS\_PBA\_DDK\_4\_1\_308**

##### **ENHANCEMENTS**

1. Added new API ClearSensorFlash() for EFI environment
2. Added new API's for storing and accessing SAP (System Access Password) from windows and EFI environment

## **VFS\_PBA\_DDK\_4\_1\_306**

### **ENHANCEMENTS**

1. Minor bug fixes
2. Updated for SSO Get Credentials
3. Updated with additional error messages for wave test application

## **VFS\_PBA\_DDK\_4\_1\_304**

### **ENHANCEMENTS**

1. Added support for sensors with PID 8 in EFI driver and loader
2. Minor bug fixes in Image Reconstruction and error return values.

## **VFS\_PBA\_DDK\_4\_1\_302**

### **ENHANCEMENTS**

1. Updated to support vcsWavPbaGetAuthUserCreds API for SSO
2. Changes to add AsusUsbVFS.img to vcsWavePba.dll resource
3. Changes to include vcссо.sys file to the package. And will be installed only if target platform is WinXP x86
4. Changed ACPI Table to include Credential data itself instead of pointers to Credential Data.
5. Changes to load UEFI driver image into sensor flash. UEFI Driver image will obtain from vcsWavePba.dll or current location or Program Files folder. (For Production version image will check only from dll.).
6. Changes to generate BVS, BMP files along with verification result in EFI platform
7. Removed "Load Driver Image" option as the driver is getting uploaded during Open session time.

## **VFS\_PBA\_DDK\_4\_1\_301**

### **ENHANCEMENTS**

1. Provided support to enable/disable finger print PBA
2. Provided an option to vcsWavePbaTest application to upload EFI image to sensor flash. (EFI Image "asusUsbVfs.img" should be in same directory where application executes)
3. Updated with Get Protocol interface to check FingerPrint PBA Flag status
4. Minor bug fix in USDK module

## VFS\_PBA\_DDK\_4\_1\_300

### ENHANCEMENTS

Package Name: VFS\_PBA\_ASUS\_TEK\_Setup.exe

Includes:

Validity Sensor DDK

Validity Sensor EFI DDK for ASUS

VFS\_PBA\_WAVE\_DDK\_Setup.exe – This is add on component to install EFI/SSO/Wave specific binary files

vfsPBAWavetest.exe – Windows test application. This will also have option to save EFI driver to flash

### SYSTEM REQUIREMENTS

BIOS with EFI support

Copy the AsusVfsldr.efi file to the location where vcsWavePBATest.exe is present to Load the Driver Image to Sensor.

## INSTALLING AT THE COMMAND PROMPT

Rather than launching the update programs through hyperlinks in this web page, the Setup.exe can be run from the Windows command prompt. Command prompt installation allows options, such as silent install or log file creation, to be selected. To install the drivers and DLLs from the command prompt, first ensure you are running as an administrator or the command prompt window has administrator rights. A command window can then be open. In Windows XP, use Start > Run.

" VFS\_PBA\_ASUS\_DDK\_SETUP.exe /s " will install in silent mode. If

this is a clean install, you can run the EXE and create a log file.

" VFS\_PBA\_ASUS\_DDK\_SETUP.exe /l\* c:\validity\_install.log"

You can uninstall the software and create a log file using the EXE:

" VFS\_PBA\_ASUS\_DDK\_SETUP.exe /l\* c:\validity\_uninstall.log /x"

Command line switches:

/s	silent mode - no prompts	
/l *	log MSI actions to the specified file	
/x	uninstall the software	
/p	SWIPEDIRECTION= <i>value</i>	(can be 0,1 or 2)
/p	PPENABLE= <i>value</i>	(can be 0 or 1)
/p	PPTYPEAC= <i>value</i>	(can be 0 or 1)
/p	PPTYPEDC= <i>value</i>	(can be 0 or 1)



The AES algorithm used by Validity Sensors is derived from Dr. Brian Gladman's AES code  
<http://gladman.plushost.co.uk/oldsite/AES>

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## FURTHER SUPPORT

If you need further assistance or clarification about anything in this document, please contact an applications engineer at Validity Sensors.

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