MSO Software Development Kit
Version 6.32.0.0
Windows, Linux and Android RELEASE NOTES

For online updates: please connect to our web site http://www.biometric-terminals.com
For support: please contact our hotline hotline.biometrics@idemia.com

Compatibility

MSO™ SDK version 6.32.0.0 is compatible with:

- MSO USB driver version 4.3.0.0 (and later version)

- FINGER VP firmware version 01.10.b (and later versions)

- MSO firmware versions 11.03.g or 13.01.d (and later versions)

- CBM-E3 firmware version 03.05.e (and later versions).

- Android version 5.0 (Lollipop) to Android 10 (Q).

See also Supported Operating Systems in the Programmer's Guide section "Installation".

For USB Driver installation issues: please see the MSO_USB_Driver.chm located in the driver installation folder.

6.32.0.0

- Generation Date: February 2020.

Improvement:

  o Support of Android 10.

  o New version of Libusb Android

  o New version of MorphoImageConvert with below COTS libraries updates:

    ▪ giflib from 5.1.4 to 5.2.1

    ▪ libjpeg-turbo from 2.0.0 to 2.0.3

    ▪ libpng from 1.6.35 to 1.6.37

    ▪ libtiff from 4.0.10 to 4.1.0

- libjpeg was no more used

Limitations:

- o MSO_SECU APIs for Windows certificate store are available only in C++ windows.
- o USB Full Speed configuration for FVP sensors is available with FW 01.14.c and later versions
- o Enrollment and identification must be done with the same OS.
- o The maximum Android API version allowed is 27
- o Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
- o Reboot feature is not supported in tunneling mode on Android.
- o MSO350 and MSO1350 E2 are not supported on windows 10 with USB driver 4.x.
- o Serial port (RS-232) and Finger VP devices are not supported on Android.
- o Unable to use MsoServerPipe if MSO Android service is started.
- o Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
- o On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string.
- o Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.31.0.0

- Generation Date: January 2020.

Improvement:

- o A new "CAPTURE_FAILED" error is handled, when some residual fingerprints are presents on the sensor panel with additional light, and False Finger Detection (FFD) activated.
- o Integration of MSO USB Driver 4.3.0.0.

Limitations:

- o MSO_SECU APIs for Windows certificate store are available only in C++ windows.
- o USB Full Speed configuration for FVP sensors is available with FW 01.14.c and later versions
- o Enrollment and identification must be done with the same OS.

- o The maximum Android API version allowed is 27
- o Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
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- o On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string.
- o Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.30.1.0

- Generation Date: Dec 2019.

Fix Bug:

- o The errors constants in MSO_SECU Java Linux, have incorrect values.

Limitations:

- o MSO_SECU APIs for Windows certificate store are available only in C++ windows.
- o USB Full Speed configuration for FVP sensors is available with FW 01.14.c and later versions
- o Enrollment and identification must be done with the same OS.
- o The maximum Android API version allowed is 27
- o Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
- o Reboot feature is not supported in tunneling mode on Android.
- o MSO350 and MSO1350 E2 are not supported on windows 10 with USB driver 4.x.
- o Serial port (RS-232) and Finger VP devices are not supported on Android.
- o Unable to use MsoServerPipe if MSO Android service is started.
- o Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).

- o On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string.

- o Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.30.0.0

- Generation Date: Dec 2019.

New features:

- o USB Full Speed configuration capability for FVP sensors
- o Removal of optional header in exported WSQ images

Limitations:

- o USB Full Speed configuration for FVP sensors is available with FW 01.14.c and later versions
- o Enrollment and identification must be done with the same OS.
- o The maximum Android API version allowed is 27
- o Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
- o Reboot feature is not supported in tunneling mode on Android.
- o MSO350 and MSO1350 E2 are not supported on windows 10 with USB driver 4.x.
- o Serial port (RS-232) and Finger VP devices are not supported on Android.
- o Unable to use MsoServerPipe if MSO Android service is started.
- o Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
- o On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string.

- o Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.29.0.0

- Generation Date: Nov 2019.

New features:

- New MSO_SECU interface that get the privacy key from Windows Certificate Store.

Limitations:

- BioAPI is removed and is no more supported.
- The maximum Android API version allowed is 27
- Encrypted WSQ images provided by MSO SDK will not contain the optional WSQ header.
- Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
- Reboot feature is not supported in tunneling mode on Android.
- MSO350 and MSO1350 E2 are not supported on windows 10 with USB driver 4.x.
- Serial port (RS-232) and Finger VP devices are not supported on Android.
- Unable to use MsoServerPipe if MSO Android service is started.
- Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
- On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
- Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.28.0.0

- Generation Date: Sept 2019.

New features:

- New callback notifying the user that the device is busy during a capture operation (Enroll, Verify, Identify).
- Integrate 03.05.e NEMO FW.
- Update libspp.dll to 1.12.3.
- Add MSO_VersionCmdLine to Windows & Linux package.

Limitations:

- The maximum Android API version allowed is 27
- Encrypted WSQ images provided by MSO SDK will not contain the optional WSQ header.

- Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
- Reboot feature is not supported in tunneling mode on Android.
- MSO350 and MSO1350 E2 are not supported on windows 10 with USB driver 4.x.
- Serial port (RS-232) and Finger VP devices are not supported on Android.
- Unable to use MsoServerPipe if MSO Android service is started.
- Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
- On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
- Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.27.1.0

- Generation Date: Aug 2019.

New features:

- Integration of driver 4.2.2
- Integration of CBM-E3 / CBM-V3 firmware: 03.05.c.
- Support of Android Xamarin.
- Reading certificates from Windows Certificate Store.

Limitations:

- The maximum Android API version allowed is 27
- Encrypted WSQ images provided by MSO SDK will not contain the optional WSQ header.
- Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
- Reboot feature is not supported in tunneling mode on Android.
- MSO350 and MSO1350 E2 and E3 are not supported on windows 10 with USB driver 4.2.1.0.
- Serial port (RS-232) and Finger VP devices are not supported on Android.
- Unable to use MsoServerPipe if MSO Android service is started.

- o Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
- o On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
- o Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.26.0.0

- Generation Date: June 2019.

New features:

- o MSO SDK supports Android 9.

Limitations:

- o The maximum Android API version allowed is 27
- o Encrypted WSQ images provided by MSO SDK will not contain the optional WSQ header.
- o Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
- o Reboot feature is not supported in tunneling mode on Android.
- o MSO350 and MSO1350 E2 and E3 are not supported on windows 10 with USB driver 4.2.1.0.
- o Serial port (RS-232) and Finger VP devices are not supported on Android.
- o Unable to use MsoServerPipe if MSO Android service is started.
- o Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
- o On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
- o Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.25.0.0

- Generation Date: May 2019.

New features:

- Provide WSQ optional header in the WSQ images returned by MSO SDK.
- MSO SDK supports Fedora 27.
- MSO SDK supports ARMV8 - Android 64 bits.
- Change the default installation path of Windows package to "C:\Program Files\Idemia".

Fix Bug: CBM suspend mode.

Limitations:

- Encrypted WSQ images provided by MSO SDK will not contain the optional WSQ header.
- Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
- Reboot feature is not supported in tunneling mode on Android.
- MSO350 and MSO1350 E2 and E3 are not supported on windows 10 with USB driver 4.2.1.0.
- Support of Android 8.1 has not been qualified in case of licenses in Idemia devices
- Serial port (RS-232) and Finger VP devices are not supported on Android.
- Unable to use MsoServerPipe if MSO Android service is started.
- Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
- On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
- Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.24.1.0

- Generation Date: Avril 2019.

New features:

- Support of VerifyMatch function using MorphoAcquisition component
- Upgrade OpenSSL to version 1.1.1b

- Provide two installers of the driver (release 4.2.1) for 64-bit and 32-bit OS. For Windows 10 / Server 2016 and further versions, the Microsoft generic driver (USBSER) will be used instead of the Biometric Driver along with the MSO USB Service.
- QuickLoader is compatible with MSO USB Driver 4.2.1 with MSO USB service enabled.

- Limitations:
  - Due to the upgrade of openssl to 1.1.1b, MSO SDK needs now Android 5 and later.
  - Reboot feature is not supported in tunneling mode on Android.
  - MSO350 and MSO1350 E2 and E3 are not supported on windows 10 with USB driver 4.2.1.0.
  - Support of Android 8.1 has not been qualified in case of licenses in Idemia devices
  - Serial port (RS-232) and Finger VP devices are not supported on Android.
  - Unable to use MsoServerPipe if MSO Android service is started.
  - Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
  - On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
  - Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.23.0.0

- Generation Date: February 2019.
  Miscellaneous :
  - MorphoSmart SDK becomes MSO SDK.

- Limitations:
  - MSO1350 and MSO350 do not support yet the driver 4.1.0.0 and later version
  - QuickLoader is not compatible with the driver 4.1.0.0.
  - Support of Android 8.1 has not been qualified in case of licenses in Idemia devices
  - Serial port (RS-232) and Finger VP devices are not supported on Android.

- o Unable to use MsoServerPipe if MSO Android service is started.
- o Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
- o On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
- o Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.22.0.0

- Generation Date: February 2019.
- New features:
  - o MSO SDK integrates MorphoImageConvert 1.11.2.
  - o New interfaces in C_MORPHO_Device Class for setting user data in the internal device area memory (New PKI for Malaysian card)
  - o MSO SDK supports Windows Server 2016 x64
  - o MSO SDK supports Ubuntu 16.04 x64 and x86
  - o MSO SDK supports Ubuntu 18.04 x64

- Limitations:
  - o MSO1350 and MSO350 do not support yet the driver 4.1.0.0 and later version
  - o QuickLoader is not compatible with the driver 4.1.0.0.
  - o Support of Android 8.1 has not been qualified in case of licenses in Idemia devices
  - o Serial port (RS-232) and Finger VP devices are not supported on Android.
  - o Unable to use MsoServerPipe if MSO Android service is started.
  - o Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
  - o On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
  - o Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.21.3.0

- Generation Date: December 2018.
- New features: MSO SDK integrates signed MSO USB driver based on Microsoft USBSER
- Limitations:
  - MSO1350 and MSO350 do not support yet the driver 4.1.0.0 and later version
  - QuickLoader is not compatible with the driver 4.1.0.0.
  - Support of Android 8.1 has not been qualified in case of licenses in Idemia devices
  - Serial port (RS-232) and Finger VP devices are not supported on Android.
  - Unable to use MsoServerPipe if MSO Android service is started.
  - Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
  - On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
  - Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.21.2.0

- Generation Date: December 2018.
- New features: MorphoSmart SDK Support for Windows driver.
- Limitations:
  - MSO1350 and MSO350 do not support driver 4.0.0.0
  - Support of Android 8.1 has not been qualified in case of licenses in Idemia devices
  - Serial port (RS-232) and Finger VP devices are not supported on Android.
  - Unable to use MsoServerPipe if MorphoSmart Android service is started.
  - Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
  - On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
  - Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.20.1.0

- Generation Date: October 2018.
- New features: MorphoSmart SDK Support for Android 7 & 8.
- Limitations:
    - Support of Android 8.1 has not been qualified in case of licenses in Idemia devices
    - Serial port (RS-232) and Finger VP devices are not handled on Android.
    - Unable to use MsoServerPipe if MorphoSmart Android service is started.
    - Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
    - On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
    - Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.

6.19.4.0

- Generation Date: August 2018.
- New features: SDK conformity with GDPR.
- Limitations:
    - Serial port (RS-232) and Finger VP devices are not handled on Android.
    - Unable to use MsoServerPipe if MorphoSmart Android service is started.
    - Unable to use asynchronous messages with MsoServerPipe if device is secured (tunneling security and offered security).
    - On Windows, the SDK may crash while retrieving a text field from device database without "\0" character at the end of the string
    - Sometimes the connection of the host to the device may fail. In this case, the application shall be restarted or the device shall be unplugged/replugged.
    - Android Morpho Sample supports only 7" and 10" screens.

6.19.0.0

- Generation Date: June 2018.
- Bug fix : WSQ image extraction after capture on Android

6.18.0.0

- Generation Date: April 2018.
- New feature:
    - FFD LED support :
        - Add "Critical" to supported security levels
        - New finger warnings : "Moved", "Saturated" and "Invalid"

6.17.6.0

- Generation Date: February 2018.
- New feature:
    - New application MsoServerPipe to support device connection over TCP network in Android and Linux.
    - Enable/Disable 'Power supply configuration' for CBM-E3 in MorphoSmart SDK Windows, Linux and Android.
    - Add new interface:

        initialize (Context context, String packagePath, boolean enableWakeLock)

        When the tablet is entering in standby mode, the CPU is kept awake until terminating the ongoing read or write operations on the device, this is done for the operations requiring read and write in flash memory, except for biometrics operations, a cancel is sent to the device.
    - First version of MSO_SECU library for Android and Linux: management of cryptography operations

    - Support the Offered security and Tunneling mode on Android and Linux platform.

- Fixed issues:
    - Unable to use MorphoSmart SDK without MSO_SECU library.
    - Image encryption of WSQ and RAW image doesn't work in Java interface.
    - Unable to use secured devices if MorphoSmart Android service is started.
    - Freeze of the sample when the MorphoTabletteV2 is exiting from standby mode.
    - Capture/Identify returns error code -1 when asynchronous messages are disabled.
    - Crash of MorphoSample Android after open device.

6.16.0.0

- Generation Date: March, 2017.
- New Features:
    - Supports Android 6.0.1 (Marshmallow).
    - Improvement of MorphoSample Android GUI by adding a vertical scrollbar in database management and file management areas.
    - Fixed issue:
        - FVP-1753: [Marshmallow: CBM-E3] openDevice returns timeout_error in the second call of the method.

6.15.4.0

- Generation Date: January, 2017.
- Fixed issue:
    - FVP-1573: RS232: parameter and display issues.

6.15.3.0

- Generation Date: October, 2016.
- Fixed issue:
    - FVP-1578: Freeze Morpho Smart Android Sample after tablet standby, when Morpho Smart Android Service is started.

6.15.1.0

- Generation Date: July, 2016.
- New Features:
    - MorphoSmart SDK Linux: Support of oracle JDK 1.6u45.

6.15.0.0

- Generation Date: July, 2016.
- Fixed issues:
    - FVP-1501: Database 5000 users with 2 templates stops at 2500 and 5000 templates.

- New Features:

  - o Generation of MorphoSmart SDK to support java 6_u45 and Ubuntu 10.04 32 bit.

6.14.5.0

- Generation Date: May, 2016.
- New Features:

  - o Provide an interface for OpenDevice with serial port name used as input.   This will correct several different serial port naming issues under Linux platforms.

6.14.4.0

- Generation Date: May, 2016.

- Fixed issues:
  - o FVP-1450: Fix a connection issue with Lenovo tablets.
  - o FVP-1448: Signature of the .Net DLL of MorphoSmart SDK.

6.14.3.0

- Generation Date: May, 2016.
- New Features:

  - o First version of MorphoSmart SDK under Visual Studio 2013.

  - o Use of libusb1.0 in MorphoSmart SDK Linux.

  - o CBM-E3 1.06.a firmware integration in MorphoSmart SDK Windows package.

- Fixed issues:
  - o Fix minor instabilities in the samples.
- Deprecated:
  - o Library MORPHO_SDK_IMAGE.dll has been deprecated.

    Samples use C_MORPHO_Image class sources situated in <PC\SDK\samples\Common files> instead of MORPHO_SDK_IMAGE.dll.
  - o The Linux Sample MSO_TestBio has been deprecated.

6.14.2.0

- Generation Date: April, 2016.
- New Features:

  - o MorphoSmart SDK service over Android: an android service application to handle MorphoSmart sensors and concurrent accesses. This service is to replace the existing USB daemon.

  - o New native interface to open a device without using java wrapper under Android.
  - o Support of CBM-E3 on Linux and Android in a non-routed OS.
  - o Support of secured connection mode on CBM-E3 on Windows 10.
  - o Support of read/write licenses on CBM-E3 on Windows 10.

- Fixed issues:
  - o FVP-1143: Fix RS232 connection to MSO on Linux error.
- Deprecated:
  - o Android native USB daemon has been deprecated. The new Android service should be used instead.

6.14.1.0

- Generation Date: February, 2016.
- New Features:

  - o Support of Windows 10.

- Fixed issues:
  - o FVP-1233: Possibility to limit the size of templates or the number of minutiae in templates, in Enroll API for Android SDK as described in the documentation.

6.14.0.0

- Generation Date: January, 2016.
- New Features:

6.13.3.0_Android_5.1

- Generation Date: November, 2015.

- New Features:

    o Support of Android Lollipop

- Issues fixed:

    o FVP-1181:   Add MorphoSample.apk to MorphoSmart™ SDK Android Delivery
    o FVP-1191:   Build of SDK Android in Linux
- Errata:
    o 200 successive calls to Open and Close interface causes the device to fail.
- Deprecated API:
    o Refer to "*Deprecated List*" chapter in "*MorphoSmart SDK Android Programmer's Guide*" document.

6.13.3.0

- Generation Date: May, 2015.

- Issues fixed:

    o FVP-1081: Crash of MSO_ServerPipe.exe tool on Windows Server 2008 R2

    o Some minor bug fixes in SDK layer.

- Limitations:

    o Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.

    o MorphoSmart™ SDK APIs related to DataBase feature can only access the database #0, even on devices supporting multiple databases.

- Deprecated:
    o Mobile device section
    o OS

        ▪ Windows XP

        ▪ Windows Vista

        ▪ Windows Server 2003

        ▪ Windows Server 2008

6.13.2.0_Android_4.1

- Generation Date: Mai, 2015.

- New Features:

    - The Android MorphoSmart SDK is compatible with Linux MorphoSmart SDK version 6.13.2.0

- Issues fixed:

    - FVP-986: Application crashing after finger print capture.

    - FVP-1000: Android API parameters not checked.

    - FVP-1075: Unable to access SQL database after using CBM.

    - FVP-1076: Java system values corrupted by Android SDK.

    - Some minor bug fixes in SDK layer.

- Deprecated API:

    - Refer to "*Deprecated List*" chapter in "*MorphoSmart SDK Android Programmer's Guide*" document.

6.13.2.0

- Generation Date: December, 2014.
- New Features:

    - Added Java Wrapper over SDK and demonstration applications

- Issues fixed:

    - FVP-964: GenericAcquisitionComponent sample on a 64bits platform could be launched normally with the solution's file.

    - FVP-982: In MSO_Demo after a « Destroy Base » command, it's no more necessary to restart the sample.

    - FVP-940: Verify_Match using 2 PKMAT templates with MSO_Demo no longer returns error.

    - Some minor bug fixes in SDK layer.

- Deprecated:

    - Mobile device section
    - OS

        - Windows XP

- ▪ Windows Vista

- ▪ Windows Server 2003

- ▪ Windows Server 2008

6.6.6.1_Android_3.3

- Generation Date: December, 2014.

- Issues fixed:

  - o FVP-1057: Android MorphoSmart SDK: Compilation error on Linux.

  - o FVP-979: SDK Android MorphoSample stops responding after unplugging an external sensor.

- Limitations:

  - o The VerifyMatch functionality for FINGER VP device is not available on MorphoSmart SDK 6.6, but from MorphoSmart SDK 6.7.

  - o With CBM-E2 since 13.01 firmware release without MSO_FFD_FW license, we cannot use Low security level (FFD_SECURITY_LEVEL_LOW_HOST). Available values is:

    - ▪ Medium   : FFD_SECURITY_LEVEL_MEDIUM_HOST
    - ▪ High   : FFD_SECURITY_LEVEL_HIGH_HOST

6.11.1.0

- Generation Date: November, 2014.

- Improvement:

  - o Added new version of MorphoSmart Driver: 3.59.1.0 (see Driver release note).

- Limitations:

  - o It is recommended to build applications made using SDK 5.x and SDK 6.x when using this application with SDK 6.11.1.0 and driver MorphoSmart_USB_driver_3.59.1.0.

  - o Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.

  - o MorphoSmart™ SDK APIs related to DataBase feature can only access the database #0, even on devices supporting multiple databases.

  - o FVP-964:

To use correctly the GenericAcquisitionComponent sample on a 64bits platform, it's necessary to delete the file to load the solution to compile and launch the file .csproj instead.

- o FVP-982:
  Due to a MSO_Demo behavior, it is highly recommended to restart the tool after a « Destroy Base » command.

- o FVP-940:
  It is recommended to not launch a Verify_Match using 2 PKMAT templates with MSO_Demo. In this case MSO_Demo returns the error "Invalid Template".

- Deprecated:
  - o Mobile device section
  - o OS
    - Windows XP
    - Windows Vista
    - Windows Server 2003
    - Windows Server 2008

6.11.0.1

- Generation Date: September, 2014.
- New Features:
  - o Added new version of MorphoSmart Driver 3.59.0.2 (Win 8.1 and Server 2012)
  - o Added support of Windows 8.1 32/64bits, Windows Server 2012 64bits and Windows Server 2012 R2 64bits
  - o CBME2 FFD message handling in MorphoAcquisition
- Improvement:
  - o BioAPI 1.1: has been updated.
- New API for logging:
  - o C_MORPHO_Device::SetLoggingLevelOfGroup(UI i_ui_GroupId, T_MORPHO_LOG_Level i_x_Level) : For modifying the logging level of a group.
  - o C_MORPHO_Device::SetLoggingMode(T_MORPHO_LOG_Mode i_x_Mode) : For enabling/disabling the logging.
- Issues fixed:

- CETX_N3-21: When using win32 MSO_Demo.exe under Win7 64 bits (WoW64 context), if tunneling is needed because device is secured, the tunneling initialization always failed.

- Limitations:
  - Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.

  - MorphoSmart™ SDK APIs related to DataBase feature can only access the database #0, even on devices supporting multiple databases.

  - FVP-964:
    To use correctly the GenericAcquisitionComponent sample on a 64bits platform, it's necessary to delete the file to load the solution to compile and launch the file .csproj instead.

  - FVP-982:
    Due to a MSO_Demo behavior, it is highly recommended to restart the tool after a « Destroy Base » command.

  - FVP-940:
    It is recommended to not launch a Verify_Match using 2 PKMAT templates with MSO_Demo. In this case MSO_Demo returns the error "Invalid Template".

- Deprecated:
  - Mobile device section
  - OS

    - Windows XP

    - Windows Vista

    - Windows Server 2003

    - Windows Server 2008

6.6.6.0_Android_3.1

- Generation Date: August, 2014.
- Improvement:
  - A new service provides a MorphoSmart™ multi-access management.
- Limitations:
  - Android Morpho Sample supports only 7" and 10" screens.
  - The VerifyMatch functionality for FINGER VP device is not available on MorphoSmart SDK 6.6, but from MorphoSmart SDK 6.7.

- With CBM-E2 since 13.01 firmware release without MSO_FFD_FW license, we cannot use Low security level (FFD_SECURITY_LEVEL_LOW_HOST). Available values is:
    - Medium : FFD_SECURITY_LEVEL_MEDIUM_HOST
    - High : FFD_SECURITY_LEVEL_HIGH_HOST

6.9.7.1

- Generation Date: June, 2014.
- New Features:
    - Add five Acquisition Modes.
      C_MORPHO_Device::SetStrategyAcquisitionMode and
      C_MORPHO_Device::GetStrategyAcquisitionMode
    - User will need to select any one of the mode for Enroll, Capture, Verify and Identify methods
    - Default mode is compatible with legacy installations
- Limitations:
    - BioAPI is deprecated and not supported on this version.
    - Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.

6.9.6.0:

- Generation Date: April, 2014.
- New Features:
    - Removed MorphoSmart™ MSO firmware 10.00.g
    - Added security level **None** which serves to disable FFD control in sensor without a license MSO_FFD_FW (reserved for MorphoSmart™ CBM-E2 since v13.01).
    - Update fingerprints for an existing user in a database through C_MORPHO_User::Enroll and C_MORPHO_User::DbStore methods by calling C_MORPHO_User::SetTemplateUpdateMask first
    - Evolution related to C_MORPHO_Device::VerifyMatch, C_MORPHO_Database::IdentifyMatch and C_MORPHO_TemplateList features for MorphoSmart™ MSO/CBM
        - SDK : Support for a new fingerprint templates MORPHO_PK_ANSI_378_2009 and MORPHO_PK_ISO_FMR_2011 (import only).

- Limitations:

    o BioAPI is deprecated and not supported on this version.

    o Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.

6.6.6.0_Android_2.0

- Generation Date: April, 2014.
- Improvement:

    o MorphoSample android supports FFD Firmware message.

    o Evolution related to MorphoDevice.rebootSoft

    o New APIs:

        ▪ MorphoDevice.ping

        ▪ MorphoDevice.resumeConnection

- Issues fixed:

    o FVP-835: setConfigParam: This function is returning -5 or -9.

    o FVP-834: getConfigParam: This function is not returning any value.

    o FVP-811: The field "Maximum Number Of Record" is not updated in MorphoSample.

    o FVP-802: Reboot SW is not working when launched from MSO SDK Android Sample.

    o FVP-801: Sometimes sensor is not detected after a tablet reboot.

    o FVP-800: Sometimes sensor is not detected after tablet standby or sleep mode.

    o FVP-695: The function MorphoDevice::closeDevice() returns -4 instead of 0.

    o FVP-646: MorphoUser::dbVerifyAndUpdate() failed when verifying and updating a record of database.

- Limitations:

    o Android Morpho Sample supports only 7" and 10" screens.

    o The VerifyMatch functionality for FINGER VP device is not available on MorphoSmart SDK 6.6, but from MorphoSmart SDK 6.7.

    o With CBM-E2 since 13.01 firmware release without MSO_FFD_FW license, we cannot use Low security level (FFD_SECURITY_LEVEL_LOW_HOST). Available values is:

        ▪ Medium   : FFD_SECURITY_LEVEL_MEDIUM_HOST

        ▪ High   : FFD_SECURITY_LEVEL_HIGH_HOST

6.6.6.0_Android_1.8_RC

- Generation Date: December, 2013.

- Issues fixed:
  - FVP-800: Sometimes sensor is not detected after tablet standby or sleep mode.
  - FVP-801: Sometimes sensor is not detected after a tablet reboot.
- Known issues:
  - FVP-802: Reboot SW is not working when launched from MSO SDK Android Sample.
- Limitations:
  - Sometimes the popup for USB rights access is opened several successive times; each popup shall be accepted by user.
  - Scripts for documentation and lib native manual generation are not functional under Linux environment.
  - Android Morpho Sample supports only 7" and 10" screens.

6.8.1.0:

- Generation Date: July, 2013.

- New Features:
  - Evolution for Windows 8 compatibility
    - Updated MultiProtect version 4.0.0 (license management tool)
    - Installation: Digital signature of the MSI installer
- Limitations:
  - BioAPI: Only 32-bit libraries (win32 dll) are provided.
  - BioAPI sample MorphoBSPDemo does not support MorphoSmart™ FINGER VP.
  - Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.
  - MorphoSmart™ SDK APIs related to DataBase feature can only access the database #0, even on devices supporting multiple databases.

6.6.6.0_Android_1

- Generation Date: July, 2013.

- Initial release

6.7.3.1:

- Generation Date: June, 2013.

- New Features:

    - Evolution related to C_MORPHO_Device::VerifyMatch features for MorphoSmart™ FINGER VP

        - SDK : Support for a new multimodal template (PK_FVP_MATCH)

        - SDK : Handles security level for request of type C_MORPHO_Device::VerifyMatch by calling C_MORPHO_Device::SetSecurityLevel before C_MORPHO_Device::VerifyMatch

    - Updated MultiProtect version 3.4.0 (license management tool).

- Limitations:

    - BioAPI: Only 32-bit libraries (win32 dll) are provided.

    - BioAPI sample MorphoBSPDemo does not support MorphoSmart™ FINGER VP.

    - Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.

    - MorphoSmart™ SDK APIs related to DataBase feature can only access the database #0, even on devices supporting multiple databases.

6.6.6.0:

- Generation Date: March, 2013.

- New Features:

    - Evolution related to C_MORPHO_Database::IdentifyMatch features for MorphoSmart™ FINGER VP

        - SDK : Support for a new multimodal template (PK_FVP_MATCH)

        - SDK : Handles security level for request of type C_MORPHO_Database::IdentifyMatch by calling C_MORPHO_Device::SetSecurityLevel before C_MORPHO_Database::IdentifyMatch

    - Updated OpenSSL to version 1.0.1.

- OpenSSL is now provided in both 32-bit and 64-bit binaries.

- Added Libisofir library version 1.0.

- Added support for X9.84 signed files containing standard fingerprint templates and Morpho proprietary multimodal templates

- Fixed bug FVP-195: C_MORPHO_Device::GetSecuConfig does not retrieve the Minimum Multimodal Security Level (MorphoSmart™ FINGER VP only).

- Fixed bug FVP-315 : C_MORPHO_Device::GetKCV does not retrieve the KCV of KS key

- Fixed bug FVP-297: Memory leaks in C_MORPHO_Database::ReadPublicFields, C_MORPHO_Device::Capture, C_MORPHO_FieldList::DeleteField, C_MORPHO_TemplateList::GetFullImageRetrieving, C_MORPHO_TemplateList::PutFullImageRetrieving, C_MORPHO_User::Enroll, C_MORPHO_User::~C_MORPHO_User

New Samples Features:

- MSO_Demo : Added, in Capture tab, the possibility to export the new multimodal template (PK_FVP_MATCH) when the option capture type ("Verif" - Capture one pose) is enabled.

- MSO_Demo : Added in Security menu ability to load a new KS key and to retrieve its KCV

Fixed bug FVP-218: fingerprint images displayed in MSO_FVP_login are distorted.

- Fixed bug FVP-61: [MSO_Demo] Unable to select more than one reference template in Verify tab (file simulation) or when clicking Verify Match button

- Fixed bug FVP-279: [MSO_Demo] Memory leak in Get FingerPrint Image tab

New APIs:

- C_MORPHO_User::SetEnrollmentType

- C_MORPHO_User::GetEnrollmentType

- C_MORPHO_Device::LoadKs

- C_MORPHO_Device::LoadKsSecurely

- C_MORPHO_TemplateList::PutFVPX984

- C_MORPHO_TemplateList::GetFVPX984

- C_MORPHO_Device::EnableDataEncryption

- C_MORPHO_Device::IsDataEncryptionEnabled

Limitations:

- BioAPI: Only 32-bit libraries (win32 dll) are provided.

- BioAPI sample MorphoBSPDemo does not support MorphoSmart™ FINGER VP.

- Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.

6.4.2.0:

- Generation Date: December, 2011.

- New Features:

   o SDK installer is now generic for both 32-bit and 64-bit versions of Windows.

   o SDK installer provides now 32-bit libraries (win32 dll) along with 64-bit libraries (x64 dll) making it possible to cross-compile applications for both 32-bit and 64-bit versions of Windows.

   o Removed ActiveX AMK_MSO300.

   o ActiveX AMK_MSO_FVP is now deprecated and no longer supported.

   o Added a new acquisition component MorphoAcquisition replacing deprecated ActiveX interfaces.

   o Added MorphoSmart™ firmwares release notes in *Firmware Upgrade* directory.

   o Fixed bug 0013160: Unable to manage ISO fingerprint templates larger than 1 kbyte.

   o Removed Adobe Reader installer.

   o Updated document MorphoSmartCBMModuleIntegration.pdf.

   o Updated Snfiq library version 2.0.

- New Sample Features:

   o MSO_FVP_Login works now with both MorphoSmart™ MSO/CBM and MorphoSmart™ FINGER VP.

   o Removed MSO_Login.

   o MSO_Demo: Added ability to store the FFD logs.

   o Fixed bug 0011619: [MSO_Demo] In Verify tab, reference user is no longer selected after verification ('Check in local base' Authentication Mode).

   o Fixed bug 0011584: [MSO_Demo] Unable to add users with two fingers in database.

- o Fixed bug 0013181: [MSO_Demo] Unable to set the Sensor Window Position configuration key to 3.

- o Fixed bug 0013960: [MSO_Demo] WSQ format in 'Export Image' selectbox of Enroll tab is never usable (WSQ format is only available in Get Fingerprint Image tab).

- o Fixed bug 0013812: [MSO_Demo] Fingerprint templates in PKs format are not correctly saved.

- o Fixed bug 0013094: [MSO_FVP_Login] Ergonomic defects in the window of enrollment (fingerprint images are distorted).

- o Fixed bug 0013309: [MSO_ILVSample] Compilation and execution errors in Debug configuration.

- New APIs:

  - o [C_MORPHO_Device::GetFFDLogs](#)

  - o [C_MORPHO_Device::ReleaseFFDLogs](#)

  - o [C_MORPHO_Device::GetDescriptorBin](#)

  - o [C_MORPHO_Device::ConvertPkFVP](#)

- Limitations:

  - o In order to store the FFD logs, a file MSO_Demo.ini should exist in the same directory as MSO_Demo.exe. This file must contain:

    [Setup]

    LogFilePath=[a valid path to store the log file]

  - o BioAPI: Only 32-bit libraries (win32 dll) are provided.

  - o BioAPI sample MorphoBSPDemo does not support MorphoSmart™ FINGER VP.

  - o Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.

6.3.0.0

- Generation Date: August, 2011

- Windows XP Professional edition 64-bit is no longer supported (refer to [Installation](#) section to see the list of supported operating systems).

- New Features:

- o Added support for ISO-19794-4 FIR RAW, BMP, WSQ, JPEG, JPEG 2000 and PNG images.

- o Fixed bug 0011650: Some documents relative to SDK are not up to date.

- o Fixed bug 0013372: Wrong case of filename MORPHO_Types.h.

- o Fixed bug 0013652: The fingerprint quality of the second finger overwrites the fingerprint quality of the first finger.

- o Fixed bug 0013519: Wrong error message is returned on bad finger placement with MorphoSmart™ MSO FFD. Added new error code MORPHOERR_FFD_FINGER_MISPLACED.

- o Fixed bug 0013208: Uninstallation does not remove ActiveX directory *C:\Morpho\MorphoSmart SDK\ActiveX\AMK_MSO_FVP* from %PATH% environment variable.

- • New Sample Features:

  - o MSO_Demo & MSO_FVP_Login: The video animations are now MS-MPEG4-v2 encoded.

  - o MSO_Demo: Added support for multimodal templates with MorphoSmart™ MSO/CBM.

  - o MSO_Demo: Added support for fingerprint quality and advanced security levels compatibility.

  - o Fixed bug 0013308: [MSO_Demo] Unexpected message in menu "Tools/FVP MMI File/Save as" with MorphoSmart™ MSO/CBM.

  - o Fixed bug 0013651: [MSO_Demo] The number of records in the database displayed in Database Information tab is sometimes wrong.

  - o Fixed bug 0013276: [MSO_Demo] Option "Force Finger Placement on Top" is available in Capture and Enroll tabs only.

  - o Fixed bug 0013306: [AMK_MSO_FVP_Tester] Fake Finger Detection security levels for MorphoSmart™ MSO are Low, Medium and High. Multimodal security levels for MorphoSmart™ FINGER VP are Standard, Medium and High.

  - o Fixed bug 0013309: [MSO_ILVSample] Execution error.

- • New APIs:

  - o C_MORPHO_Utils::CreateISO19794_FIR

  - o C_MORPHO_Utils::EncodeISO19794_FIR

  - o C_MORPHO_Utils::WriteISO19794_FIR

  - o C_MORPHO_Utils::ReleaseISO19794_FIR

  - o C_MORPHO_Utils::ReleaseISO19794_FIR_Data

- Limitations:

  - BioAPI is available in 32-bit SDK only.

  - BioAPI sample MorphoBSPDemo does not support MorphoSmart™ FINGER VP.

  - ActiveX AMK_MSO300 and AMK_MSO_FVP are available in 32-bit SDK only.

  - AMK_MSO300.dll is no longer registered at installation time.

  - Fingerprint quality and advanced security levels compatibility (MorphoSmart™ FINGER VP only) are only available if export of templates is activated.

6.2.4.0:

- Generation Date: June, 2011.

- Delivery of libraries only, no SDK installer.

- New Features:

  - Fixed bug 0012628: C_MORPHO_Device::GetSecuConfig is now reentrant (i.e. can be called while a biometric command is running on sensor).

  - Fixed bug 0012295: C_MORPHO_FieldList::PutField accepts a field length longer than 15 bytes.

  - C_MORPHO_Device::Capture and C_MORPHO_User::Enroll:

    - Added fingerprint quality threshold.

    - Added required advanced security levels compatibility (MorphoSmart™ FINGER VP only).

  - C_MORPHO_TemplateList::GetTemplate and C_MORPHO_TemplateList::PutTemplate:

    - Added fingerprint template quality.

  - C_MORPHO_TemplateList::GetFVPTemplate and C_MORPHO_TemplateList::PutFVPTemplate:

    - Added fingerprint quality of multimodal template.

    - Added advanced security levels compatibility (MorphoSmart™ FINGER VP only).

- New APIs:

  - C_MORPHO_Database::GetMaxUser

  - C_MORPHO_Database::GetMaxDataBase

- o [C_MORPHO_User::GetUserTemplateQuality](#)

6.1.5.0:

- Generation Date: May, 2011.

- Support for new MorphoSmart™ FINGER VP.

- Updated documentation following company name change.

- Microsoft Visual Studio 2008 projects support (except for BioAPI and ActiveX sample project, still using Microsoft Visual Studio 6.0).

- New Features:

  - o New MorphoSmart™ USB Driver v3.56.0.1: Support for both MorphoSmart™ MSO/CBM and MorphoSmart™ FINGER VP.

  - o Added new document *MorphoSmart FINGER VP DESKTOP series_User Guide.pdf*.

  - o Added new document *MorphoSmart FINGER VP OEM series_User Guide.pdf*.

  - o Added new document *MorphoSmart FINGER VP_Finger Placement Sequences.pdf*.

  - o Added new document *MorphoSmart FINGER VP_Finger Positioning Guide.pdf*.

  - o Updated ActiveX AMK_MSO300 (see document AMK_MSO300.chm).

  - o Added new ActiveX AMK_MSO_FVP (see document AMK_MSO_FVP.chm).

  - o Updated MultiProtect version 2.2.4 (license management tool).

  - o Fixed bug 0012823: whitespace in %PATH% environment variable after installation.

- New APIs:

  - o [C_MORPHO_Device::SetConfigParam](#)

  - o [C_MORPHO_Device::GetConfigParam](#)

- New Sample Features:

  - o Updated MSO_Demo to cover new features.

  - o Updated ActiveX-based samples: updated helpboxes and fixed some bugs.

  - o Added MSO_FVP_Login which works only with MorphoSmart™ FINGER VP (equivalent to Mso_Login for MorphoSmart™ MSO/CBM).

- Limitations:

- o   BioAPI is available in 32-bit SDK only.

- o   BioAPI sample MorphoBSPDemo does not support MorphoSmart™ FINGER VP.

- o   ActiveX AMK_MSO_FVP is available in 32-bit SDK only.

- o   ActiveX AMK_MSO300 is available in 32-bit SDK only.

- o   AMK_MSO300.dll is no longer registered at installation time.

5.3.1.0:

- Generation Date: April, 2010.

- New Features:

  - o   Support for Windows Seven and Windows Server 2008.

  - o   Support for 64-bit operating systems: SDK is now delivered in 32-bit version and 64-bit version.

- Limitations:

  - o   64-bit SDK is necessary in case the SDK is used in kernel mode.

  - o   32-bit processes cannot load 64-bit DLLs.

  - o   64-bit processes cannot load 32-bit DLLs.

5.2.2.0:

- Generation Date: March, 2009.

- New Features:

  - o   Added Match On Card interface.

  - o   Added KCV interface.

5.1.3.0:

- Generation Date: September, 2008.

- Microsoft Visual Studio 2005 projects support.

- Microsoft Visual Studio 6.0 support is obsolete, use SDK 4.5 for support of this development environment.

- New Features:

  - Added SAGEM_V1 image compression type.

  - Added WSQ image compression type.

4.5.1.0:

- Generation Date: September, 2007.

- Updated documentation following company name change and functionnal changes.

- New Features:

  - Added Utils directory containing NFIQ, quality calculation library that conforms to the NIST standard.

  - Added Mobile devices support (Serial link only).

  - Added the OATH HOTP implementation.

  - MSO_Demo and Mso_ServerPipe include a remote communication scheme sample.

4.4.0.0:

- Generation Date: April, 2007.

- New Features:

  - New license management tool.

  - New matcher mode on identify.

4.3.3.0:

- Generation Date: December, 2006.

- New Features:

  - Ability to handle specific smartcards to perform a local (inside device) verification. Please contact Sagem for further details.

4.3.1.0:

- Generation Date: July, 2006.

- New Features:

    o MorphoSmart™ MSOxx1 devices are able to detect finger presence using impedance wake up, a new "led off" mode is selectable.

- Evolutions:

    o Synchronisation problem corrected in the windows service.

4.2.3.0:

- Generation Date: March, 2006.

- New Features:

    o Added standard minutiae formats ISO and ANSI.

    o Added unlocking interface for MorphoSmart™ MSO/CBM.

    o Added new biometric coder type: juvenile coder.

    o The GetImage function can use 2 detection modes.

4.0.3.0:

- Generation Date: September, 2005.

- New Communication Feature:

    o MorphoSmart™ communication to the PC is now done through a Windows Service.

    o New MorphoSmart™ USB Driver v2.36.19.1: "Sagem MorphoSmart USB Drivers 2.36.19.1.msi" installs the USB driver for the USB MorphoSmart™ MSO300 or CBM and the "Sagem MorphoSmart Service Provider Usb Server".

- New Features:

    o New error:

        ▪ MORPHOERR_NO_SERVER.

- New type:
  - MORPHO_HANDLE.
- New C_MORPHO_Device variable member:
  - MORPHO_HANDLE m_h_Mso100Handle.
- New API:
  - C_MORPHO_Device::GetHandle().
- The following APIs can now return the matching PK number:
  - C_MORPHO_Device::Verify
  - C_MORPHO_User::Verify
  - C_MORPHO_Database::DbCreate: two new combinations of number of persons and number of fingers per person to create a base.
- New asynchronous event status in the T_MORPHO_CALLBACK_COMMAND type for recovering the quality scores from MorphoSmart™:
  - MORPHO_CALLBACK_CODEQUALITY
  - MORPHO_CALLBACK_DETECTQUALITY

3.1.2.0:

- Generation Date: July, 2005.
- New Security Feature: False Finger Detection (FFD) with MorphoSmart™ MSOxx1.
- New Features:
  - New APIs:
    - C_MORPHO_Device::Set_FFD_SecurityLevel
    - C_MORPHO_Device::Get_FFD_SecurityLevel
  - Added FFD threshold setting in the following APIs:
    - C_MORPHO_Device::Capture
    - C_MORPHO_Device::GetImage
    - C_MORPHO_Device::Verify
    - C_MORPHO_Database::Identify
    - C_MORPHO_User::DbVerifyAndUpdate

- C_MORPHO_User::Enroll

- C_MORPHO_User::Verify

  o New MorphoSmart™ MSO301 firmware.

3.0.1.0:

- Generation Date: April, 2005.

- New dynamic library MORPHO_SDK_IMAGE.dll containing the C_MORPHO_Image class (which is not anymore in the MORPHO_SDK.dll library). The directories of this new library are: PC\MS-SDK\DLL and PC\MS-SDK\Sample\Exe for the .dll file, and PC\MS-SDK\Lib for the .lib file. If you want to maintain the compatibility, you must link the MORPHO_SDK_IMAGE.lib library in your project.

- libeay32.dll and MSOSECU.dll files are not anymore in directory PC\MS-SDK\DLL due to the fact that MSOSECU.dll is only a sample and is not mandatory for the SDK. Nevertheless, these files are still in directory PC\MS-SDK\Sample\Exe.

- Biometric tokens are in conformity with the X9.84 format.

2.4.1.0:

- Generation Date: December, 2004.

- New MorphoSmart™ USB Driver v2.3.6.17: Includes CBM driver.

- New documentation that includes MorphoSmart™ CBM functionalities.

2.3.0.0:

- Generation Date: July, 2004.

- New MorphoSmart™ USB Driver v2.2.7.13: Installation problems fixed.

- Added Sagem biometrics customer support website.

- Compatibility with IDENTLITE license.

- new API:

  o C_MORPHO_User::SetNoCheckOnTemplateForDBStore (option available for firmware versions upper than 02.05).

2.2:

- Generation Date: June, 2004.

- New MorphoSmart™ MSO300 firmware compatible with MSO350.

- New MorphoSmart™ USB Driver v2.2.7.12: Includes MSO350 driver.

- New Sample Features:

  - o MSO_Demo includes smart card access functions available with PCSC smart card reader like MorphoSmart™ MSO350. The demo is compatible with smart cards generated by Sagem Morphotouch smart card demonstration software.

2.1:

- Generation Date: March, 2004.

- New MorphoSmart™ USB Driver v2.1.5.8: Biprocessor and HyperThreading problems fixed.

- New Features:

  - o [C_MORPHO_Device::Capture](#) accepts MORPHO_PK_MAT_NORM and MORPHO_PK_MAT argument (i_x_TemplateType).

  - o [C_MORPHO_Device::Capture](#) can activate fingerprint latent detection.

  - o New asynchronous message: MORPHO_FINGER_OK notifies the end of a finger acquisition.

- New APIs:

  - o [C_MORPHO_Device::OfferedSecuOpen](#)

  - o [C_MORPHO_Device::Capture](#)

  - o [C_MORPHO_TemplateList::ExtractSignerIdX984](#)

  - o [C_MORPHO_TemplateList::VerifSignX984](#)

2.0:

- Generation Date: October, 2003.

- Secure MorphoSmart™ version BETA.

- Support for PkMat template format.

- New APIs:
    - C_MORPHO_Device::InitUsbDevicesNameEnum
    - C_MORPHO_Device::GetUsbDevicesNameEnum
    - C_MORPHO_Device::OpenUsbDevice

1.90:

- Generation Date: September, 2003.
- Secure MorphoSmart™ version ALPHA.
- New APIs:
    - C_MORPHO_Device::OpenDevice
    - C_MORPHO_Device::ComSend
    - C_MORPHO_Device::ComReceive
    - C_MORPHO_Device::OfferedSecuOpen
    - C_MORPHO_Device::OfferedSecuClose
    - C_MORPHO_Device::TunnelingOpen
    - C_MORPHO_Device::TunnelingClose
    - C_MORPHO_Device::GetSecuConfig
    - C_MORPHO_Device::SecuReadCertificate
    - C_MORPHO_Device::SecuStoCertif
    - C_MORPHO_Device::SecuStoPkcs12
    - C_MORPHO_Device::Capture
    - C_MORPHO_TemplateList::ExtractDataX984
    - C_MORPHO_TemplateList::ExtractTemplateX984
    - C_MORPHO_TemplateList::PutX984
    - C_MORPHO_TemplateList::GetX984
    - C_MORPHO_TemplateList::SetPkX984Index

1.2:

- Generation Date: September, 2003.
- Support for new MorphoSmart™ MSO300.
- new APIs:
    - C_MORPHO_Device::GetImage
- The following APIs can optionaly return the matching score (available for MorphoSmart™ MSO300/MSO200 firmware versions upper than 01.03):
    - C_MORPHO_Device::VerifyMatch
    - C_MORPHO_Device::Verify
    - C_MORPHO_Database::Identify
    - C_MORPHO_Database::IdentifyMatch
    - C_MORPHO_User:: Verify
- Several bugs fixed.

1.1:

- Generation Date: May, 2003.
- new APIs:
    - C_MORPHO_Device::Capture
    - C_MORPHO_Device::OpenDevice
- C_MORPHO_Device::Capture can calculate the minutiae after one fingerprint image acquisition.
- Several bugs fixed.

1.0:

- Generation Date: December, 2003.
- Initial release.