MACI

SOFTWARE RELEASE NOTE

Revision 6.5.1

For online updates: please connect to our web site https://www.biometric-terminals.com/.

For support: please contact our hotline hotline.biometrics@idemia.com.

Supported terminals

MACI 6.5.1 SDK supports:

- **VisionPass, firmware release 2.2.3 (or newer)**

- **VisionPass SP, firmware release 2.0.0 (or newer)**

- **Morpho*Wave* ™ XP, firmware release 1.5.3 (or newer)**

- **Morpho*Wave* ™ SP, firmware release 1.0.0 (or newer)**

- **SIGMA range, firmware release 4.3.2 (or newer)**

- **MorphoAccess® VP MD, firmware release 4.7.1 (or newer)**

Version 6.5.1 — April 2024

- When upgrading from 6.4 or before, please see **environment changes** listed in 6.5.0 release note below.
- **Improvements :**
  - Add support for multiple face template format export: allow export of FACE_V2, FACE_V2_LIGHT_COMP and FACE_V3 on VisionPass.
  - Add support for new transaction log event related to firmware upgrade.
- **Bug fixes :**
  - Fix fingerprint image acquisition without template on MorphoWave devices.
- **Limitation :**
  - **Root CA certificates must use `-----BEGIN CERTIFICATE-----`/`-----END CERTIFICATE-----` markers, OpenSSL-specific `-----BEGIN TRUSTED CERTIFICATE-----`/`-----END TRUSTED CERTIFICATE-----` markers are no longer authorized.**
  - API to connect to terminals using the transport certificate is not active yet.

Previous versions:

Version 6.5.0 ---------- Release Version: November 2023

- Important notes:
  - **The Java wrapper is now deprecated and unmaintained, it must not be used for new projects.**
    - Existing project should consider migration to the use of libthrift directly.
  - **Support of MA2G terminals** will be removed in version 7.0, planned in 2024
- **Windows 8, 8.1, Server 2012 and Server 2012 R2 dropped from list of supported OS, following Microsoft Lifecycle Policy.**
  - http://support.microsoft.com/gp/lifeselectindex
- **MACI Core is now using Visual Studio 2022:**
  - Visual C++ 2022 runtime redistributables are now required (instead of Visual C++ 2017)
  - Recompilation is unnecessary for unmodified applications
  - http://support.microsoft.com/kb/2019667
- **Minimal runtime .NET Framework is now .NET 4.8:**
  - Included from Windows 10 / Windows Server 2016 onwards (all supported OS).
- **Improvements :**
  - MACI enables TLS 1.2 and 1.3 only on all TLS sessions to ensure secure communication.
    - Secure communication between MACI and MA2G terminal is no longer possible.
    - Please note terminals are not ready for TLS 1.3 yet
  - Introduce a new API to connect to terminals using the transport certificate.
    - Please note terminals are not ready for this feature yet
    - However, this API is definitive and can be used to start developments.
  - Add support for FACE_V3 templates with VisionPass SP
  - Add support for third and fourth TLS profiles (see firmware release notes for availability and usage).
- **Bug fixes :**
  - Fix the retrieval of face template from the database.
- **Limitation :**
  - **Root CA certificates must use `-----BEGIN CERTIFICATE-----`/`-----END CERTIFICATE-----` markers,**
  - **OpenSSL-specific `-----BEGIN TRUSTED CERTIFICATE-----`/`-----END TRUSTED CERTIFICATE-----` markers are no longer authorized.**

Version 6.4.15 ---------- Release Version: August 2023

- **Important note: This is the last release to support MorphoAccess 2G terminals.**
- When upgrading from 6.1 or 6.2, please see changes in 6.3.2**.**
- **Improvements:**
  - Support for SEOS key loading and reset (please check your firmware release note for compatibility).
  - Improved firmware upgrade on MorphoWave SP and later devices:
    - Progress messages during upload (see sample for usage)
    - Improved duration of file load (up to ×2 factor)
  - Improved memory footprint (see sample for maximization using `ByteVector(file_path)`, up to ×3 factor).
- **Bug fixes :**
  - Potential infinite loop during database loading with deduplication.
- **Limitation :**
  - **Root CA certificates must use `-----BEGIN CERTIFICATE-----`/`-----END CERTIFICATE-----` markers, OpenSSL-specific `-----BEGIN TRUSTED CERTIFICATE-----`/`-----END TRUSTED CERTIFICATE-----` markers are no longer authorized.**
  - Database loading with deduplication activated can lead in rare cases to an infinite loop in MACI.
    - Ask support for assistance if needed.
  - [MA2G] Log information retrieval from MA VP Bio and Dual (2G) fails when using TLS secure communication.

Version 6.4.14 ---------- Release Version: May 2023

- **When upgrading from 6.1 or 6.2, please see changes in 6.3.2.**
- **Improvements:**
  - Support for SSCP key loading and reset (please check your firmware release note for compatibility).
- **Bug fixes :**
  - Potential infinite loop during database loading with deduplication.
- **Limitation :**
  - **Root CA certificates must use `-----BEGIN CERTIFICATE-----`/`-----END CERTIFICATE-----` markers,**

OpenSSL-specific -----BEGIN TRUSTED CERTIFICATE-----/-----END TRUSTED CERTIFICATE----- markers are no longer authorized.
- o Database loading with deduplication activated can lead in rare cases to an infinite loop in MACI.
  - ▪ Ask support for assistance if needed.
- o [MA2G] Log information retrieval from MA VP Bio and Dual (2G) fails when using TLS secure communication.

Version 6.4.12 ---------- Release Version: November 2022

- **When upgrading from 6.1 or 6.2, please see changes in 6.3.2.**
- **Improvements:**
  - o Support for hard reset command.
- **Bug fixes :**
  - o None.
- **Limitation :**
  - o **Root CA certificates must use -----BEGIN CERTIFICATE-----/-----END CERTIFICATE----- markers, OpenSSL-specific -----BEGIN TRUSTED CERTIFICATE-----/-----END TRUSTED CERTIFICATE----- markers are no longer authorized.**
  - o Database loading with deduplication activated can lead in rare cases to an infinite loop in MACI.
    - ▪ Ask support for assistance if needed.
  - o [MA2G] Log information retrieval from MA VP Bio and Dual (2G) fails when using TLS secure communication.

Version 6.4.11 ---------- Release Version: July 2022

- **When upgrading from 6.1 or 6.2, please see changes in 6.3.2.**
- **Improvements:**
  - o Management of terminal security states.
  - o Support for file cancellation (during TLS rotation).
- **Bug fixes :**
  - o Crash when TLS certificates files have been deleted prior automatic reconnection.
- **Limitation :**
  - o **Root CA certificates must use -----BEGIN CERTIFICATE-----/-----END CERTIFICATE----- markers, OpenSSL-specific -----BEGIN TRUSTED CERTIFICATE-----/-----END TRUSTED CERTIFICATE----- markers are no longer authorized.**
  - o Database loading with deduplication activated can lead in rare cases to an infinite loop in MACI.
    - ▪ Ask support for assistance if needed.
  - o [MA2G] Log information retrieval from MA VP Bio and Dual (2G) fails when using TLS secure communication.

Version 6.4.10 ---------- Release Version: February 2022

- **When upgrading from 6.1 or 6.2, please see changes in 6.3.2.**
- **Improvements:**
  - o MorphoWave SP support.
- **Bug fixes :**
- **Limitation :**
  - o Database loading with deduplication activated can lead in rare cases to an infinite loop in MACI.
    - ▪ Ask support for assistance if needed.
  - o [MA2G] Log information retrieval from MA VP Bio and Dual (2G) fails when using TLS secure communication.

Version 6.4.9 ---------- Release Version: May 2021

- **When upgrading from 6.1 or 6.2, please see changes in 6.3.2.**
- **MACI supports Morpho*Wave* ™ Compact and VisionPass on USB**
  - o See firmware documentation for exhaustive list of supported features. From MACI view:
    - ▪ Terminal: Connection, Ping, Reboot, CancelOperation
    - ▪ BioManager: all commands

- ConfigProxy: ParameterSet
- See MorphoAccessToolboxHelper sample for usage.
  - New callback/event support for USB:
    - Device Plug / Unplug
    - Computer Sleep / Wake
- **Improvements:**
  - Support for faster connection using FastConnect():
    - No command sent at connection time.
    - Allow the use of CancelOperation() on a terminal blocked in infinite timeout acquisition.
    - Use RetrieveVersion() to update the terminal information (as if application called Connect method).
  - Support for parallel commands (all supported transport links).
    - Cancelling biometric commands from BioManager (Acquire, Enroll, Identify, and Verify) does not need an additional Terminal object to perform the cancellation.
    - A multi-threaded application can re-use the same Terminal connection to send the CancelOperation.
  - Performance improvement on live messages handling
- **Bug fixes :**
  - Fixed handling of unknown transaction log fields.
  - MACI .NET sometimes failed to connect in 64-bit mode.
- **Limitation :**
  - Database loading with deduplication activated can lead in rare cases to an infinite loop in MACI.
    - Ask support for assistance if needed.
  - [MA2G] Log information retrieval from MA VP Bio and Dual (2G) fails when using TLS secure communication.

MACI 6.3.10 ----------- Release Version: March 2021

- **Improvements :**
  - Support for "mask presence" field in transaction logs on VisionPass with firmware 2.5.0 and later.
  - Support for "no mask detected" event on VisionPass with firmware 2.5.0 and later.
  - Support for both user photograph fields in transaction logs on VisionPass with firmware 2.5.1 and later.
  - Support for MDPI-M Morpho*Wave*™ Compact and VisionPass terminals (new reader in TerminalPeripherals).
  - Support for new picture sub-types on SIGMA Lite+:
    - Place Finger & Remove Finger.
    - Retry.
    - Place Card & Remove Card.
- **Bug fixes :**
  - Fixed handling of unknown transaction log fields.
  - MACI .NET sometimes failed to connect in 64-bit mode.
- **Limitation :**
  - Database loading with deduplication activated can lead in rare cases to an infinite loop in MACI.
    - Ask support for assistance if needed.

  - [MA2G] Log information retrieval from MA VP Bio and Dual (2G) fails when using TLS secure communication.

MACI 6.3.5 ----------- Release Version: July 2020

- **Improvements :**
  - Support for FACE_V2 templates on VisionPass with firmware 2.2.0 and later.
  - Support for color capture image on VisionPass (feature not available in terminal at the date of the release for MACI 6.3.5).
  - Support for new events:
    - Invalid QR Code on Morpho*Wave* Compact.
    - Invalid Card and Invalid User Data on all terminals.
  - Support for licenses handling on MA5G terminals.
    - ITerminal.GetLicenses() gives the current list of licenses in a more convenient way than the descriptor.
    - ITerminal.AddLicenses() sends the content of the license file to the terminal instead of using Licenses Manager.
- **Bug fixes :**

- o Fixed handling of live images during enrollment.
- o Fixed handling of access schedules with limits at the end of the day.
- **Limitation :**
Log information retrieval from MA VP Bio and Dual (2G) fails when TLS secure communication is enabled.

MACI 6.3.2 ----------- Release Version: January 2020

- **MACI supports VisionPass**
- **MACI libraries are digitally signed**
- **Windows 7 dropped from list of supported OS, following Microsoft Lifecycle Policy.**
  - o http://support.microsoft.com/gp/lifeselectindex
- **MACI Core is now using Visual Studio 2017:**
  - o Visual C++ 2017 runtime redistributables are now required (instead of Visual C++ 2010)
  - o Recompilation is unnecessary for unmodified applications
  - o http://support.microsoft.com/kb/2019667
- **64 bit build of MACI Core is now available:**
  - o An architecture-independent application must take care of loading the correct libraries.
- **Minimal runtime .NET Framework is now .NET 4.0:**
  - o Included from Windows 8 / Windows Server 2012 onwards.
  - o Installation might be required on Windows Server 2008 R2.
- **Improvements :**
  - o MACI disables SSL 3.0 when communicating with MA2G terminals.
    - ▪ *Set terminal registry key "/sslprofile/profile0/protocole version" to "3" before using this version.*
    - ▪ *Set terminal registry key "/sslprofile/profile1/protocole version" to "3" before using this version.*
    - ▪ Communication between MACI and MA2G terminal will now use TLS 1.0.
  - o MACI disables TLS 1.0 and TLS 1.1 when communicating with MA5G terminals.
    - ▪ Default configuration already selects TLS 1.2 or better, no action required.
  - o MACI supports TLS 1.3 and automatically uses the most secure protocol available on each device.
- **Source breaking changes :**
  - o Client application need to update FingerEventStatus values on recompilation:
    - ▪ *Replace FINGER_EVENT_ prefix with BIO_EVENT_.*
    - ▪ *Remove or replace "FINGER" and "HAND" words with "BIO".*
    - ▪ <u>Note</u>: unmodified client application do not require recompilation, binary compatibility is preserved.
- **Support for improved commands :**
  - o Available from firmware 4.6 onwards on MA SIGMA family
  - o Available from firmware 1.5 onwards for MWC.
  - o Support for customized access control with MMI selection.
  - o Support for customized user input request.
  - o Support for customized text display.
  - o Support for advanced distant session handling.
  - o Support for new access rules.
- **Bug fixes :**
  - o Fixed handling of infinite timeout during fingerprint acquisition on MWC.
  - o Fixed handling of databases size that prevented loading White List in single command.
- **Limitation :**
  - o Log information retrieval from MA VP Bio and Dual (2G) fails when TLS secure communication is enabled.

MACI 6.2.5 ----------- Release Version: January 2020

- **MACI supports MorphoAccess® VP MD**

- **Bug fixes and improvements:**
  - o Fixed an indefinite timeout in TLS on MA2G products when another connection is active.
  - o Added support for finger image acquisition without template coding on MWC.
  - o Added several new file sub-types (see firmware releases for details).
- **Limitation:**
  - o Log information retrieval from MA VP (2G) fails when TLS secure communication is enabled.

MACI 6.2.1 ----------- Release Version: September 2018

- **MACI supports Morpho*Wave*™ Compact**
- **MACI supports MorphoAccess® SIGMA Extreme series**

- **Support for identified transaction logs on MorphoAccess® SIGMA family:**
  - o Available from firmware 4.5 onwards.
- **Support for improved access schedule on MorphoAccess® SIGMA family:**
  - o Available from firmware 4.5 onwards.
- **Support for AES keys loading on MorphoAccess® SIGMA family:**
  - o Allows loading SEOS keys.
  - o Allows OSDP secure channel keys (for debug purposes).
  - o Available from firmware 4.5 onwards.
- **Bug fixes and improvements :**
  - o Fixed DatabaseProxy methods that may act as if database was non-existent on MorphoAccess® SIGMA Series under high load condition
  - o Fixed DatabaseProxy.GetMaxRecords method which was returning maximum number of total users instead of maximum users that can be enrolled in the terminal's biometric database (on MorphoAccess® SIGMA Series)
  - o Fixed an exception raised by one of the methods of BioManager class, when a failed result should be returned
  - o Fixed user retrieval fails, when database format does not match MEMS format in Morpho Legacy mode, on MorphoAccess® SIGMA® Series
  - o Fixed Memory leak in .NET wrapper, that was happening when downloading a significant number of logs from MorphoAccess® SIGMA Series terminals
  - o Fixed TLS 1.0 communication on Morpho MA2G terminals
  - o Added support of "Elliptic Curve" keys
  - o Fixed UserAccessRules serialization/deserialization issue.
  - o Added MobileNetworkSettings configuration.
  - o Added support for Access Granted G.U.I. on MA5G.
- **Limitation:**
  - o Log information retrieval from MA VP fails when TLS secure communication is enabled.

MACI 6.1.9 ----------- Release Version: February 2016

- **MACI license is not required anymore**
- **Bug fix for the following issues :**
  - o serialize_as_text and serialize_as_xml functions are not compatible with MorphoAccess® SIGMA Lite Series.
  - o Fixed a crash with MACI when disconnecting from a MorphoAccess® SIGMA family terminal in Morpho legacy mode.