



Elektrobit

EB tresos Bootloader

Release note

product release 3.12.1



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1. Overview

This document provides you information about this new release of EB tresos Bootloader:

- ▶ New features
- ▶ Enhancements
- ▶ Important Notes
- ▶ Fixed issues
- ▶ Limitations

2. BL-3.12.1 Release

2.1. New features

This chapter lists all new features added in Bootloader since previous release:

- ▶ Sleep Management using NetworkManagement message: sleep can now be managed based on a received NetworkManagement message as specified by VW.
- ▶ Downgrade protection: Bootloader supports the download of the pseudo-Flash driver, performs version verification during software update and block old software download.

2.2. Enhancements

This chapter lists all enhancements added in Bootloader since previous release:

- ▶ Support of new module ReProgMemM: ReProgMemM module performs interaction between Prog modules and memory driver (Flash driver or external Flash driver)

2.3. Important Notes

This chapter lists important notes to take care for integration of this new release:

- ▶ Bootloader implementation matrix provides you information about what is supported in EB tresos Bootloader. Please read it carefully to identify if project specific requirements shall be implemented, at integration side, by customer.
- ▶ Bootloader User guide (Bootloader_XXX_documentation) has been updated, please read it carefully to integrate and configure the bootloader correctly.
- ▶ Bootloader has been qualified for following ACG versions: ACG-8.8.2
- ▶ New modules ReProgMemM is provided in Bootloader delivery and shall be integrated. .
- ▶ When Multiple group of identifier is used, a new configuration MultipleIdentifierGroup/RxPduld in BIPduR shall be configured: This entry allows to configure the RxPduld that shall be used by BIPduR to transmit diagnostic response. In case of Lin connection this field is used to define the MsgIdx of the configured LTP message.

- ▶ New configuration parameters have been added and shall be configured (See Bootloader_VWAG_documentation for more details):
 - ▶ Grouping_NM_Message in BIPduR plugin: allows to specify if the Pdu shall belong to a group and must be filtered if its group is not selected
 - ▶ PduConnectionGroupRef in BIPduR plugin: reference to the Pdu Connection where the NM message shall belong to
 - ▶ IDGroupPDURef in BIPduR plugin: Reference to the PDU that will contain the information on which Connection Group shall be selected. This PDU shall also be referenced in the CanIf module of the communication stack.
 - ▶ RxPduld in BIPduR plugin: This entry allows to configure the RxPduld that shall be used by BIPduR to transmit diagnostic response. In case of NM Message this field is used to define the MsgIdx of the configured NM Message.
 - ▶ Sleep_Management_NM_Message in Prog plugin: Specify if Sleep Management feature shall be active or not active for NM Message.

2.4. Known issues

Known issues can be found in Known issue list document send to customer. This document can be found on EB command server.

2.5. Fixed issues

This chapter lists all fixed issues in Bootloader:

- ▶ OSCBM-299: Application is not verified by the SecureBoot feature when BM Timeout Check is activated
- ▶ OSCBLPDUR-209: LIN physical response corrupted by functional request
- ▶ OSCPROG-2282: Bootloader fails to send a response to the request 11 01 after a reset
- ▶ OSCPROG-2256: The Verify Partial Software Checksum routine verifies the wrong block

For more details, please refer to the known issue list from the previous release.

2.6. Limitations

This chapter lists current limitations in Bootloader (features that will be supported in next releases). Generic limitation for the full product are defined in EB tresos Product Description.



- ▶ For the Sleep Management feature using NM message, a 2% latency can be expected for the timeout.

3. BL-3.12.0 Release

3.1. New features

This chapter lists all new features added in Bootloader since previous release:

Error: File not found .../.../osc_BundleBoot/doc/public/releasenotes/newFeatures.xml

- ▶ Bootloader Updater: Bootloader software can be updated by downloading a Bootloader updater including a new Bootloader version

3.2. Enhancements

This chapter lists all enhancements added in Bootloader since previous release:

- ▶ No enhancements.

3.3. Important Notes

This chapter lists important notes to take care for integration of this new release:

- ▶ Bootloader implementation matrix provides you information about what is supported in EB tresos Bootloader. Please read it carefully to identify if project specific requirements shall be implemented, at integration side, by customer.
- ▶ Bootloader User guide (Bootloader_xxx_documentation) has been updated, please read it carefully to integrate and configure the bootloader correctly.
- ▶ Bootloader has been qualified for following ACG versions: ACG-8.8.1
- ▶ New configuration parameters have been added and shall be set during integration (See Bootloader_VWAG_documentation for more details):
 - ▶ "Boot Manager Variant" in BM plugin: Shall be set to "Boot Manager" in Bootloader integration; shall be set to "Pre-Boot Manager" in Initial Bootloader Manager integration (when Bootloader updater is used).

- ▶ "Check Application Validity" in BM plugin: To be configured in Initial Bootloader Manager integration (when Bootloader updater is used); Shall be enable if the application validity and jump shall be done in Initial Bootloader Manager and not in Bootloader.
- ▶ New callbacks have been added and shall be implemented in integration code (See `Bootloader_Essentials_documentation` for more details):
 - ▶ `BM_CheckProgRequest`: Required only in Initial Boot Manager integration, it shall provide information if re-programming request has been received in Application.
 - ▶ `BM_CustomCheckValidAppl`: Required only in Initial Boot Manager integration, it shall provide information if Application is valid.
 - ▶ `BM_CustomCheckValidBLU`: Required only in Initial Boot Manager integration, it shall provide information if Bootloader Updater is present and valid.
 - ▶ `BM_CustomCheckValidBL`: Required only in Initial Boot Manager integration, it shall provide information if Bootloader is present and valid.
 - ▶ `BM_JumpToApplication`: Required only in Initial Boot Manager integration, it shall perform the jump to application software.
 - ▶ `BM_JumpToBLU`: Required only in Initial Boot Manager integration, it shall perform the jump to Bootloader Updater software.
 - ▶ `BM_JumpToBL`: Required only in Initial Boot Manager integration, it shall perform the jump to Bootloader software.

3.4. Known issues

Known issues can be found in Known issue list document send to customer. This document can be found on EB command server.

3.5. Fixed issues

This chapter lists all fixed issues in Bootloader:

- ▶ `OSCPROGVAG-157`: Download failure on encrypted data reception
- ▶ `OSCPROG-2187`: Wrong NRC priority: NRC73 is sent when NRC71 conditions apply
- ▶ `OSCPROG-2186`: Signature verification fails if a `TransferData` block is re-transmitted

For more details, please refer to the known issue list from the previous release.

3.6. Limitations

This chapter lists current limitations in Bootloader (features that will be supported in next releases). Generic limitation for the full product are defined in EB tresos Product Description.

- ▶ No limitation in this version

4. BL-3.11.0 Release

4.1. New features

This chapter lists all new features added in Bootloader since previous release:

- ▶ DiagnosticSessionControl response after reset with Ethernet: EB tresos Bootloader is able to sent response to DiagnosticSessionControl after a reset when using Ethernet protocol.
- ▶ Decryption: EB tresos Bootloader supports the decryption of the received data before writting them to Flash
- ▶ Pre-condition callbacks: EB tresos Bootloader supports a new callback (PROG_CustCheckProgPrecond) allowing integration code implementing specific condition check not available in EB product part.

4.2. Enhancements

This chapter lists all enhancements added in Bootloader since previous release:

- ▶ EB tresos Bootloader now supports decompression slicing value inferior to 1000 bytes.
- ▶ No enhancements.

4.3. Important Notes

This chapter lists important notes to take care for integration of this new release:

- ▶ Bootloader implementation matrix provides you information about what is supported in EB tresos Bootloader. Please read it carefully to identify if project specific requirements shall be implemented, at integration side, by customer.
- ▶ Bootloader User guide (Bootloader_xxx_documentation) has been updated, please read it carefully to integrate and configure the bootloader correctly.
- ▶ Bootloader has been qualified for following ACG versions: ACG-8.8.0
- ▶ Callback prototypes have changed to support PduLengthType type for length type parameter. If the PduLengthType configuration in EcuC plugin is uint16, no change is required in integration, in other case you shall adapt integration to the new type configuration.

- ▶ New callbacks have been added and shall be implemented in integration code (See Bootloader_VWAG_-documentation for more details):
 - ▶ PROG_CustomDecryptGetInitVector: When decryption feature is used, it allows integration code to provide the initialization vector for decryption algorithm
 - ▶ PROG_CustomGetSymDecryptionKey: When decryption feature is used, it allows integration code to provide the key information for decryption algorithm
 - ▶ PROG_CustCheckProgPrecond: It allows integration code implementing specific condition check not available in EB product part.
- ▶ New configuration parameters have been added and shall be configured (See Bootloader_VWAG_documentation for more details):
 - ▶ Enable_Csm_Decryption: Enable the use of decryption feature in EB tresos Bootloader

4.4. Known issues

Known issues can be found in Known issue list document send to customer. This document can be found on EB command server.

4.5. Fixed issues

This chapter lists all fixed issues in Bootloader:

- ▶ OSCPROG-2135: Potential overflow of programming end address
- ▶ OSCPROGVAG-147: Bootloader allows to erase next block without CheckMemory done for already erased block
- ▶ OSCPROG-2120: Wrong address used on verification when DualBank is activated

For more details, please refer to the known issue list from the previous release.

4.6. Limitations

This chapter lists current limitations in Bootloader (features that will be supported in next releases). Generic limitation for the full product are defined in EB tresos Product Description.

- ▶ No limitation in this version

5. BL-3.9.3 Release

5.1. New features

This chapter lists all new features added in Bootloader since previous release:

No new feature in this version.

5.2. Enhancements

This chapter lists all enhancements added in Bootloader since previous release:

- ▶ No enhancements.

5.3. Important Notes

This chapter lists important notes to take care for integration of this new release:

- ▶ Bootloader implementation matrix provides you information about what is supported in EB tresos Bootloader. Please read it carefully to identify if project specific requirements shall be implemented, at integration side, by customer.
- ▶ Bootloader User guide (Bootloader_xxx_documentation) has been updated, please read it carefully to integrate and configure the bootloader correctly.
- ▶ Bootloader has been qualified for following ACG versions: ACG-6.4.10 / ACG-7.7.2 / ACG-8.7.2
- ▶ New configuration parameter "Verification Buffer size" has been added in Prog configuration in order to size the buffer used for verification computation. This buffer is used to temporary locate the data read from memory in order to compute the CRC/Hash/Signature on them. More the buffer is big, more the blocking time for verification computation will be high.

5.4. Known issues

Known issues can be found in Known issue list document send to customer. This document can be found on EB command server.

5.5. Fixed issues

This chapter lists all fixed issues in Bootloader:

- ▶ OSCPROG-2060: CRC computation failure on unexpected value
- ▶ OSCPROGVAG-139: An error-free download sequence is interrupted by not allowed requests
- ▶ OSCPROG-2044: Bootloader does not compile on Ethernet if the parameter Dsc_Prog_Response is enabled

For more details, please refer to the known issue list from the previous release.

5.6. Limitations

This chapter lists current limitations in Bootloader (features that will be supported in next releases). Generic limitation for the full product are defined in EB tresos Product Description.

- ▶ No limitation in this version

6. BL-3.9.2 Release

6.1. New features

This chapter lists all new features added in Bootloader since previous release:

- ▶ Dual bank: Bootloader supports new callbacks allowing integration code supporting dual bank update (hardware specific).

6.2. Enhancements

This chapter lists all enhancements added in Bootloader since previous release:

- ▶ No enhancements.

6.3. Important Notes

This chapter lists important notes to take care for integration of this new release:

- ▶ Bootloader implementation matrix provides you information about what is supported in EB tresos Bootloader. Please read it carefully to identify if project specific requirements shall be implemented, at integration side, by customer.
- ▶ Bootloader User guide (Bootloader_xxx_documentation) has been updated, please read it carefully to integrate and configure the bootloader correctly.
- ▶ Bootloader has been qualified for following ACG versions: ACG-6.4.10 / ACG-7.7.2 / ACG-8.7.1
- ▶ Board API BoardPerformReset was renamed to BoardPerformSwReset and takes no parameter now. Please update your integration accordingly.
- ▶ Board API BoardSetState was renamed to BoardSetSleepState and takes no parameter now. Please update your integration accordingly.
- ▶ Board API BoardGetResetType was renamed to BoardIsSwReset and takes no parameter now. It returns TRUE if the reset type is software. Please update your integration accordingly.
- ▶ Dual Bank feature has been added and require the following actions to be used:

- ▶ Enable "Dual Memory Bank Used" configuration parameter in Prog plugin.
- ▶ Implement callback `BM_CustomDualBankInit` performing hardware initialization required to use the dual bank (Hardware specific).
- ▶ Implement callback `PROG_CustomCalcInactiveBankWriteAddr` performing address translation, for write operation, depending of the active bank (Hardware specific).
- ▶ Implement callback `PROG_CustomCalcInactiveBankReadAddr` performing address translation, for read operation, depending of the active bank (Hardware specific).
- ▶ Callbacks `PROG_CustomStoreResetCause` and `PROG_CustomGetResetCause` have been added and shall be implemented to exchange information between Bootloader and application in case a response shall be sent after reset.

6.4. Known issues

Known issues can be found in Known issue list document send to customer. This document can be found on EB command server.

6.5. Fixed issues

This chapter lists all fixed issues in Bootloader:

- ▶ OSCPROG-1901: NRC78 response is not sent for an EcuReset (0x11) request with the SuppressPositiveResponse bit set
- ▶ OSCPROG-1872: Checksum generation errors are not detected if Authenticated/Secured Boot is enabled
- ▶ OSCPROG-1829: Flash writing operation is not done correctly when signature verification is performed on received data
- ▶ OSCBLPDUR-156: No NRC=13(IMLOIF) response for TesterPresent with suppress response bit
- ▶ OSCPROG-1872: Checksum generation errors are not detected if Authenticated/Secured Boot is enabled
- ▶ OSCPROG-1961: Sleep Timer is deactivated once a request is received
- ▶ OSCPROG-1943: On bootloader start-up, the sleep time-out only happens if the TCP connection is established
- ▶ OSCPROGVAG-132: NRC 22 is received for consecutive RequestDownload requests
- ▶ OSCPROG-1949: The second download of the flash driver fails after the first successful download
- ▶ OSCPROG-1931: Wrong NRC in case of a Transfer Data request with no data



- ▶ OSCPLOG-1930: Corruption flag of the flash driver is not correctly updated after a signature length check failure
- ▶ OSCPLOG-1929: Transition from Compare Key to Request Download is not rejected

For more details, please refer to the known issue list from the previous release.

6.6. Limitations

This chapter lists current limitations in Bootloader (features that will be supported in next releases). Generic limitation for the full product are defined in EB tresos Product Description.

- ▶ No limitation in this version

7. BL-3.9.1 Release

7.1. New features

This chapter lists all new features added in Bootloader since previous release:

- ▶ CVN verification: New callbacks have been added, allowing integration code verifying the received CVN.
- ▶ Fingerprint writing reject after erasing

7.2. Enhancements

This chapter lists all enhancements added in Bootloader since previous release:

- ▶ Product callbacks have be improved allowing integration code implementing downgrade protection.

7.3. Important Notes

This chapter lists important notes to take care for integration of this new release:

- ▶ Bootloader implementation matrix provides you information about what is supported in EB tresos Bootloader. Please read it carefully to identify if project specific requirements shall be implemented, at integration side, by customer.
- ▶ Bootloader User guide (Bootloader_XXX_documentation) has been updated, please read it carefully to integrate and configure the bootloader correctly.
- ▶ Bootloader has been qualified for following ACG versions: ACG-6.4.10 / ACG-7.7.2 / ACG-8.7.0
- ▶ Callback PROG_CustomSetCrcCompareSuccess has been renamed to PROG_CustomSetDownloadVerificationSuccess. Please update your integration accordingly.
- ▶ Callbacks BM_DisableECCCheck and BM_EnableECCCheck have been added and shall be implemented in integration code to enable/disable the ECC check if available on the hardware.
- ▶ Callbacks UDS_CustomPositiveAnswerInd has been added and can (optional) be used in integration code to implement action on the sending of a positive response.
- ▶ New callbacks have been added and shall be implemented in integration code (See Bootloader_VWAG_-documentation for more details):

- ▶ PROG_CustomCvnVerification: Request verification of the received CVN.
- ▶ PROG_CustomCvnVerificationStatus: Request status of the CVN verification.

7.4. Known issues

Known issues can be found in Known issue list document send to customer. This document can be found on EB command server.

7.5. Fixed issues

This chapter lists all fixed issues in Bootloader:

- ▶ OSCPROG-1865: NRC78 response is not sent for a DiagnosticSessionControl(defaultSession) request with the SuppressPositiveResponse bit set
- ▶ OSCPROG-1847: SecurityAccess subfunction parameter is not read correctly
- ▶ OSCPROG-1825: CheckMemory fails with infinite NRC78 in specific configuration
- ▶ OSCPROG-1772: Bootloader goes to sleep during programming session
- ▶ OSCPROG-1827: No response to a RequestDownload request when previous CheckMemory failed
- ▶ OSCPROG-1821: ECU does not return to Lock state when GetSeed is not allowed (NRC_37)

For more details, please refer to the known issue list from the previous release.

7.6. Limitations

This chapter lists current limitations in Bootloader (features that will be supported in next releases). Generic limitation for the full product are defined in EB tresos Product Description.

- ▶ Requirement 80126-A1119 is not implemented
- ▶ Requirement 80124-300 is not implemented