1 Migrating from CycloneBOOT 2.0.2 to 2.1.0

1.1 Cipher Modes

CycloneBOOT has been updated with CycloneCRYPTO version 2.2.0. This new update introduces a naming change to the "cipher_mode" module. "cipher_mode" becomes "cipher_mode**s**".

The corresponding source folder therefore must be updated in your project.
From *cyclone_crypto/**cipher_mode**/xxx (c/h)* to *cyclone_crypto/**cipher_modes**/xxx (c/h)*

1.2 IAP Config Macros

Crypto configuration Macros

Following IAP configuration macros have been updated:

```
#define IAP_INTEGRITY_SUPPORT
#define IAP_AUTHENTICATION_SUPPORT
#define IAP_SIGNATURE_SUPPORT
#define IAP_RSA_SUPPORT
#define IAP_ECDSA_SUPPORT
```

To

```
#define VERIFY_INTEGRITY_SUPPORT
#define VERIFY_AUTHENTICATION_SUPPORT
#define VERIFY_SIGNATURE_SUPPORT
#define VERIFY_RSA_SUPPORT
#define VERIFY_ECDSA_SUPPORT
```

1.3 IAP source files

The following source files have been reorganized.

IAP Check, IAP Auth and IAP Cipher

A new security folder has been added to group security related modules.

The following file paths must be updated in your project:

- *cyclone_boot/iap/iap_cipher (c/h) → cyclone_boot/security/cipher (c/h)*
- *cyclone_boot/iap/iap_check (c/h) → cyclone_boot/security/verify (c/h)*
- *cyclone_boot/iap/iap_auth (c/h) → cyclone_boot/security/verify_auth (c/h)*
- *cyclone_boot/iap/iap_sign (c/h) → cyclone_boot/security/verify_sign (c/h)*

Flash Drivers

Core

The flash descriptor file “flash.h” has been moved to folder core/flash.
The following file paths must be updated in your project:

- *cyclone_boot/drivers/flash/flash.h → cyclone_boot/core/flash/flash.h*

Internal and External Flash Drivers

Various flash drivers are now separated in two: internal and external.
The following file paths must therefore be modified in your project.

Internal Flash Drivers:

- *cyclone_boot/drivers/flash/sam_ed_5x_flash_driver (c/h) →*
  cyclone_boot/drivers/flash/internal/sam_ed_5x_flash_driver (c/h)

- *cyclone_boot/drivers/flash/stm32f4xx_flash_driver (c/h) →*
  cyclone_boot/drivers/flash/internal/stm32f4xx_flash_driver (c/h)

- *cyclone_boot/drivers/flash/stm32f7xx_flash_driver (c/h) →*
  cyclone_boot/drivers/flash/internal/stm32f7xx_flash_driver (c/h)

- *cyclone_boot/drivers/flash/stm32h7xx_flash_driver (c/h) →*
  cyclone_boot/drivers/flash/internal/stm32h7xx_flash_driver (c/h)

- *cyclone_boot/drivers/flash/stm32l4xx_flash_driver (c/h) →*
  cyclone_boot/drivers/flash/internal/stm32l4xx_flash_driver (c/h)

External Flash Drivers

- *cyclone_boot/drivers/flash/at25sf128a_flash_driver(c/h) →*
  cyclone_boot/drivers/flash/external/at25sf128a_flash_driver(c/h)

- *cyclone_boot/drivers/flash/mx25l512_flash_driver(c/h) →*
  cyclone_boot/drivers/flash/external/mx25l512_flash_driver(c/h)

- *cyclone_boot/drivers/flash/n25q512a_flash_driver(c/h) →*
  cyclone_boot/drivers/flash/external/n25q512a_flash_driver(c/h)

MCU Drivers

The MCU driver descriptor file “mcu.h” has been put into the core folder.
The following paths must be updated in your project:

- *cyclone_boot/drivers/mcu/mcu.h → cyclone_boot/core/mcu/mcu.h*

Error Codes

A series of error codes have been introduced to provide helpful error messages related to firmware update failures. These error codes will be progressively expanded to cover different failure/update scenarios.
As a result, the signature of the following functions has been changed:

```
cboot_error_t iapInit(IapContext *context, const IapSettings
*settings);
cboot_error_t iapUpdate(IapContext *context, const void *data, size_t
length);
cboot_error_t iapFinalize(IapContext *context);

cboot_error_t iapReboot(IapContext *context);
```

The following file must be integrated to your project:

- cyclone_boot/core/cboot_error.h

1.4 ApplicationImageBuilder

This release contains the source code for the ApplicationImageBuilder utility. The CLI flags and options have been updated and must be considered by the user.

CLI options

Summary of changes to CLI options/flags.

Name	<= 2.0.2	2.1.0	Comments
Encryption Algorithm	-e	--enc-algo	In the old version of ApplicationImageBuilder, the encryption algorithm was chosen by default. With version 2.1.0 onwards, the flag –enc-algo must be supplied.
Encryption Key	-ek	--encryption-key	
Authentication Algorithm	-a	--auth-algo	
Authentication Key	-ak	--auth-key	
Integrity Algorithm	-ia	--integrity-algo	
Signature Algorithm	-sa	--sign-algo	
Signature Key	-sk	--sign-key	
Application firmware version	-fv	--firmware-version	
Image Number / Index	-inb	--firmware-index	
Add Padding / Internal Image	-int	--add-padding	Padding is required when an image for a “Single Bank” MCU being built.
Input binary	-input	-i / --input	
Output image	-output	-o / --output	
CLI tool version	N/A	-v / --version	New option
Help	N/A	-h / --help	New option