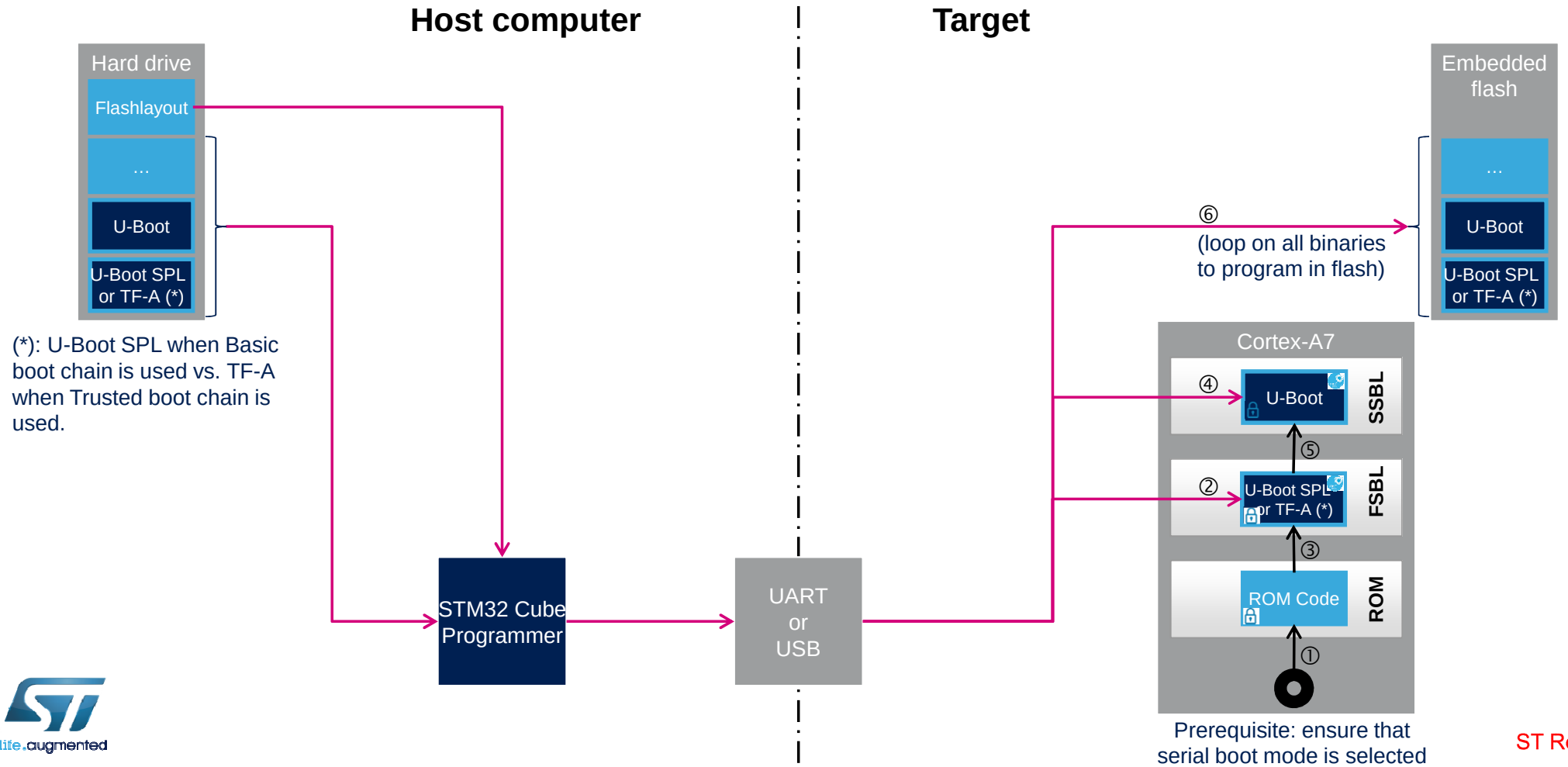
STM32CubeProgrammer for flash programming



STM32CubeProgrammer for flash programming

This slide explains how a serial boot is managed in order to program the board embedded flash, on the right, with binaries available on a host computer, on the left.

STM32CubeProgrammer is the tool delivered by STMicroelectronics in order to program flashes, running on the host computer.

The flash programming process requires to connect the board to the host computer, via an UART or USB link. Then, the user has to select a boot pins combination corresponding to a serial boot and reset the board. From here, the boot chain is executed as we saw just before:

1) the ROM code starts and detects that the selected boot mode is serial, whether UART or USB. It downloads the FSBL via the available serial link from the host computer to the embedded RAM and run it.
2) The FSBL does the same to get the SSBL from the host computer and copy it to the DDR for execution.
3) The SSBL asks for the flashlayout to the host computer. The flashlayout contains a textual description of the expected flash memory mapping, partition per partition.
4) The boot chain will remain in a loop in SSBL until the end of the flash programming process, following the instructions from the flashlayout.

When this sequence is finished, the user can change the boot pins to select the freshly programmed flash as boot device and reset its board to boot on it.