



## **Installing Popular Linux Distributions on BlueField**

# Table of contents

[Building Your Own BFB Installation Image](#)

---

[Installing Linux Distributions](#)

---

[BlueField Linux Drivers](#)

---

# Building Your Own BFB Installation Image

Users wishing to build their own customized NVIDIA® BlueField® networking platform's (DPU or SuperNIC) OS image can use the BFB build environment. See [this GitHub webpage](#) for more information.

## Note

For any customized BlueField OS image to boot on the UEFI secure-boot-enabled BlueField (default BlueField secure boot setting), the OS must be either signed with an existing key in the UEFI DB (e.g., the Microsoft key), or UEFI secure boot must be disabled. See "[Secure Boot](#)" and its subpages for more details.

## Installing Linux Distributions

Contact [NVIDIA Enterprise Support](#) for information on the installation of Linux distributions other than Ubuntu.

## BlueField Linux Drivers

The following table lists the BlueField drivers which are part of the Official Ubuntu Linux distribution for BlueField. Some of the drivers are not in the upstream Linux kernel yet.

Driver	Description	BlueField-2	BlueField-3
bluefield-edac	BlueField-specific EDAC driver		
dw_mmc_bluefield	BlueField DW Multimedia Card driver		

Driver	Description	BlueField-2	BlueField-3
sdhci-of-dwcmshc	SDHCI platform driver for Synopsys DWC MSHC		
gpio-mlxbf2	GPIO driver		
gpio-mlxbf3	GPIO driver		
i2c-mlx	I2C bus driver (i2c-mlxbf.c upstream)		
ipmb-dev-int	Driver needed to receive IPMB messages from a BMC and send a response back. This driver works with the I2C driver and a user-space program such as OpenIPMI.		
ipmb-host	Driver needed on BlueField to send IPMB messages to the BMC on the IPMB bus. This driver works with the I2C driver. It only loads successfully if it executes a successful handshake with the BMC.		
mlxbf-gige	Gigabit Ethernet driver		
mlxbf-livefish	BlueField HCA firmware burning driver. This driver supports burning firmware for the embedded HCA in the BlueField SoC.		
mlxbf-pka	BlueField PKA kernel module		
mlxbf-pmc	Performance monitoring counters. The driver provides access to available performance modules through the sysfs interface. The performance modules in BlueField are present in several hardware blocks and each block has a certain set of supported events.		
mlxbf-ptm	Kernel driver that provides a debugfs interface for the system software to monitor the BlueField device's power and thermal management parameters.		
mlxbf-tmfifo	TMFIFO driver for BlueField SoC		

Driver	Description	BlueField-2	BlueField-3
mlx-bootctl	Boot control driver. This driver provides a sysfs interface for systems management software to manage reset time actions.		
mlx-trio	TRIO driver for BlueField SoC		
pwr-mlxbf	Supports reset or low-power mode handling for BlueField.		
pinctrl-mlxbf	Allows multiplexing individual GPIOs to switch from the default hardware mode to software-controlled mode.		
mlxbf-pmc	Mellanox PMC driver		

© Copyright 2024, NVIDIA. PDF Generated on 08/20/2024