



NIC Mode Installation

Table of contents

[Upgrade BlueField Firmware Components and BSP Using BFB Image](#)

[Changing UEFI and BMC Password Using bf.cfg](#)

[Change Mode of Operation to Zero-trust Mode](#)

The following sections detail the procedure for installing BlueField software when the BlueField networking platform (DPU or SuperNIC) is running in NIC mode.

Note

NIC mode is the default mode for BlueField SuperNICs, while BlueField DPUs are shipped with DPU mode as their default. To switch between the modes, see [NVIDIA BlueField Modes of Operation](#). To check which mode your BlueField is currently running, see [Common Configurations](#).

Note

In the out-of-box state of the BlueField the host is assumed to be trusted. Later in this procedure, after performing BFB Bundle update, [a step](#) is provided to disable the host RShim which the user may perform to protect the BlueField from potential security threats from the host.

Upgrade BlueField Firmware Components and BSP Using BFB Image

Upgrade the BlueField firmware components (i.e., ATF, UEFI, NIC-firmware, BlueField BMC firmware) and the BSP using the BFB image.

Tip

Make sure to download the latest bf-fwbundle image (BFB file) available from the [DOCA-Host and BlueField Bundle Runtime Downloads](#).

This can be performed using one of the following methods:

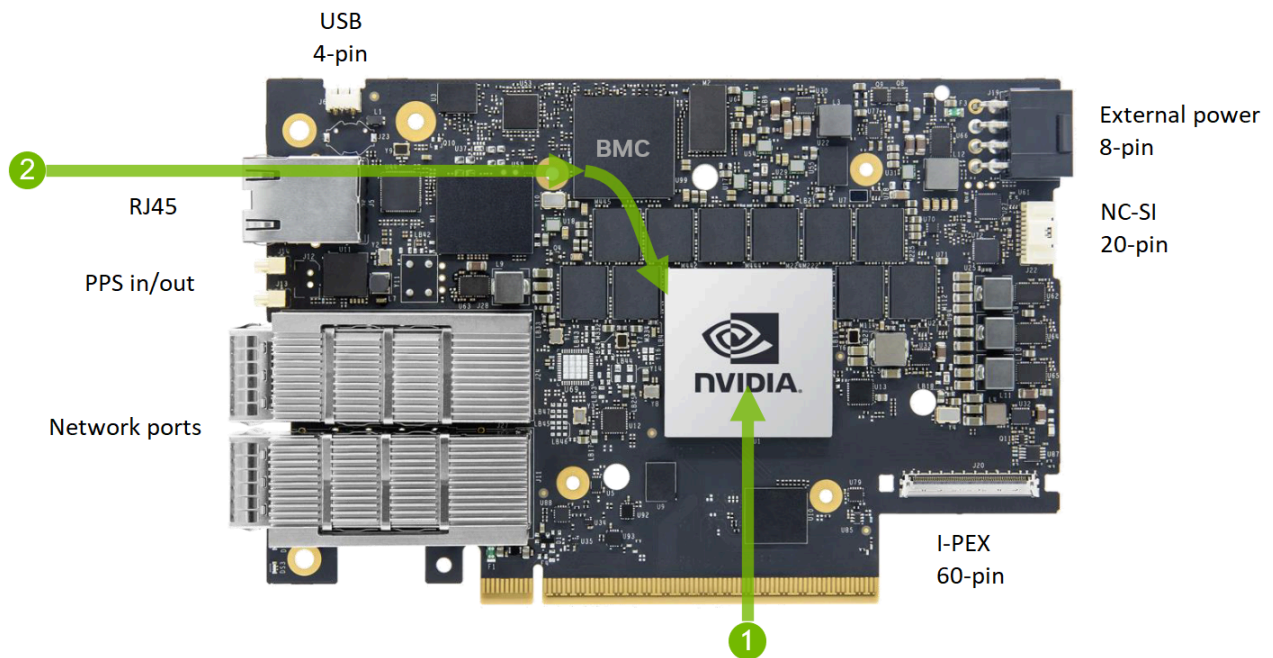
1. From the host x86, which should be considered as trusted during this maintenance window, follow the installation procedure [here](#).
2. If a DPU BMC connected to the ToR switch over 1GbE is available, follow the [DPU Mode Installation](#) procedure.

PCIe (in-band, via host OS)

- 1 RShim over PCIe, BFB upgrade

RJ45 (out-of-band)

- 2 BlueField-BMC, RedFish, BFB upgrade



Changing UEFI and BMC Password Using bf.cfg

- To change the UEFI password, add the current UEFI password under parameter UEFI_PASSWORD and define the new UEFI password under NEW_UEFI_PASSWORD inside the `bf.cfg` configuration file.
- To change the BMC root password, add the current BMC root password under parameter BMC_PASSWORD and define the new BMC root password under NEW_BMC_PASSWORD inside the `bf.cfg` configuration file.

Change Mode of Operation to Zero-trust Mode

Unless it is explicitly desired for the host to be trusted, make sure to disable the host RShim to protect the BlueField from potential security threats from the host by running the following NC-SI command from the host BMC:

Set RShim State Command Format

Byte/Bit	31:24	23:16	15:8	7:0
0..15	NC-SI Header (OEM Command)			
16:19	NVIDIA Manufacture ID (IANA) = 0x8119			
20:23	Command rev=0x00	MLNX Cmd ID= 0x12	Parameter=0x1B	Reserved
24:27	Reserved			Host_RT_Access_State
28:31	Checksum 31:0			

Set RShim State Command Parameters

Field	Bytes	Offset in NC-SI Command	Description
Host_RT_Access_State	1	27	RShim state: <ul style="list-style-type: none"> • 0 – Enabled • 1 – Locked • Other – reserved

Notice

This document is provided for information purposes only and shall not be regarded as a warranty of a certain functionality, condition, or quality of a product. NVIDIA Corporation ("NVIDIA") makes no representations or warranties, expressed or implied, as to the accuracy or completeness of the information contained in this document and assumes no responsibility for any errors contained herein. NVIDIA shall have no liability for the consequences or use of such information or for any infringement of patents or other rights of third parties that may result from its use. This document is not a commitment to develop, release, or deliver any Material (defined below), code, or functionality.

NVIDIA reserves the right to make corrections, modifications, enhancements, improvements, and any other changes to this document, at any time without notice.

Customer should obtain the latest relevant information before placing orders and should verify that such information is current and complete.

NVIDIA products are sold subject to the NVIDIA standard terms and conditions of sale supplied at the time of order acknowledgement, unless otherwise agreed in an individual sales agreement signed by authorized representatives of NVIDIA and customer ("Terms of Sale"). NVIDIA hereby expressly objects to applying any customer general terms and conditions with regards to the purchase of the NVIDIA product referenced in this document. No contractual obligations are formed either directly or indirectly by this document.

NVIDIA products are not designed, authorized, or warranted to be suitable for use in medical, military, aircraft, space, or life support equipment, nor in applications where failure or malfunction of the NVIDIA product can reasonably be expected to result in personal injury, death, or property or environmental damage. NVIDIA accepts no liability for inclusion and/or use of NVIDIA products in such equipment or applications and therefore such inclusion and/or use is at customer's own risk.

NVIDIA makes no representation or warranty that products based on this document will be suitable for any specified use. Testing of all parameters of each product is not necessarily performed by NVIDIA. It is customer's sole responsibility to evaluate and determine the applicability of any information contained in this document, ensure the product is suitable and fit for the application planned by customer, and perform the necessary testing for the application in order to avoid a default of the application or the product. Weaknesses in customer's product designs may affect the quality and reliability of the NVIDIA product and may result in additional or different conditions and/or requirements beyond those contained in this document. NVIDIA accepts no liability related to any default, damage, costs, or problem which may be based on or attributable to: (i) the use of the NVIDIA product in any manner that is contrary to this document or (ii) customer product designs.

No license, either expressed or implied, is granted under any NVIDIA patent right, copyright, or other NVIDIA intellectual property right under this document. Information published by NVIDIA regarding third-party products or services does not constitute a license from NVIDIA to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property rights of the third party, or a license from NVIDIA under the patents or other intellectual property rights of NVIDIA.

Reproduction of information in this document is permissible only if approved in advance by NVIDIA in writing, reproduced without alteration and in full compliance with all applicable export laws and regulations, and accompanied by all associated conditions, limitations, and notices.

THIS DOCUMENT AND ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL NVIDIA BE LIABLE FOR ANY DAMAGES, INCLUDING WITHOUT LIMITATION ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY, ARISING OUT OF

ANY USE OF THIS DOCUMENT, EVEN IF NVIDIA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Notwithstanding any damages that customer might incur for any reason whatsoever, NVIDIA's aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the Terms of Sale for the product.

Trademarks

NVIDIA and the NVIDIA logo are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. Other company and product names may be trademarks of the respective companies with which they are associated.

© Copyright 2026, NVIDIA. PDF Generated on 02/28/2026