



## **Change Log History**

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## Changes and New Features in v24.10

- To ensure FRU device information is consistent across different system components, NVIDIA Networking is aligning the BlueField BMC FRU board product name with the system product name. This means that there would be two variations of BlueField BMC FRUs in the field. The following are the supported deviations:

FRU Field	Rev-1 (Old)	Rev-2 (New)
FRU Device Description	Nvidia-BMCMezz (ID 169)	BlueField-3 DPU (ID 243)
Board Manufacturing Date	<Board-mfg-date>	<Board-mfg-date>
Board Manufacturer	Nvidia	Nvidia
Board Product	Nvidia-BMCMezz	BlueField-3 DPU
Board Serial	<Board-serial>	<Board-serial>
Board Part Number	<Board-part-number>	<Board-part-number>

- Security enhancements – Introduced a new BIOS option to disable the IPMI channel between the BlueField Arm cores and its BMC. By default, this interface is enabled. However, a new BIOS attribute accessible via Redfish now permits disabling this interface for enhanced security.
- IPMB channel relocation – The IPMB channel used by the BlueField BMC to retrieve data from the BlueField Arm is now utilizing a dedicated I2C interface. This change is aimed at improving the serviceability of the interface.
- Temperature monitoring – Added the BlueField Arm DDR sensor to the BlueField BMC sensor list. This addition enables the monitoring of DDR temperature ([ddr\\_temp](#)), ensuring better performance and reliability.
- Event logging enhancements – Introduced several new event alarms:
  - BlueField data port module over current event ([Module Critical Power Consumption](#))
  - BlueField data port module temperature event ([Module Temperature Going High/Low](#))
  - BlueField Arm frequency change event ([Arm Frequency Change](#))

## **Note**

These alarms are now logged to the BMC System Event Log (SEL) for better event tracking and system diagnostics.

- [BIOS Debug Mode](#) – An option has been added to enable BIOS debug mode, facilitating advanced troubleshooting and system analysis

## Changes and New Features in v24.07

- Extended DHCP mode setting to provide control for each IP version. In the current version, IPMITool includes a dedicated function to control the mode for both IPv4 and IPv6. For more details, please refer to section "[Configuring IPv6 Mode](#)".
- Updated Linux kernel from version 5.15 to 6.1
- Upgraded BlueField BMC Linux packages:
  - libpam 1.6 to 1.61
  - curl 8.5 to 8.7.1
  - bash 3.2.57 to 5.2.21
  - DNSmasq 2.9
  - glibc 2.39
  - ipmitool 1.8.19
  - busybox 1.36.1
  - rsyslog 8.2402.0
- The DPU BMC no longer supports openbmctool; all APIs are now accessible via Redfish
- The Redfish schema at `/redfish/v1/Cables/` is no longer supported. The data port link state is now accessible through the

`Chassis/Card1/NetworkAdapters/NvidiaNetworkAdapter/Ports` schema which includes the link state for the available data ports.

- The size of the BMC dump entry container is no longer limited to only two BMC dump entries. The limit now applies to the total amount of memory stored in the container, thus allowing more BMC dump entries to be stored in it depending on their size ([Creating BMC Dump Task](#)).
- Added support for the IPMI OEM command to configure the guest tunnel ([Guest Tunnel](#))
- Extended the BMC log to capture Redfish/IPMI command configurations initiated by the user of the BMC ([System Logs](#))
- RAS record UE/CE faults of MEM into BMC SEL ([RAS Errors](#))
- Enhanced Redfish BFB SimpleUpdate to support HTTP/HTTPS file transfer policy ([Installing BFB](#))
- Introduced rsyslog capability to log BMC SEL entries and Arm console output to a remote server ([Rsyslog](#))
- Network re-provisioning ([Bare-metal Reprovisioning](#)):
  - Added an option in network re-provisioning for BMC to halt instead of reset after provisioning, allowing users to choose when to reset the DPU after provisioning is complete
  - Added support for ATF/UEFI and NIC firmware golden image versioning
- Added support for RShim force ownership request

## Changes and New Features in v24.04

- Updated RShim user space driver to version 2.0.27
- Added an additional FRU device to the DPU BMC to reflect DPU Arm FRU information ([System FRU](#))
- Introduced a redfish command to reset the DPU BMC eROT (Glacier) ([Activating New CEC](#))
- Implemented support for sending sysrq controls to the DPU Arm through the SOL interface ([SysRq Support in SOL](#))

- Change the Redfish BFB software update and Redfish system dump to try automatically to acquire the RShim interface
- Added Redfish schema to provide DPU description, base MAC, and base GUID ([DPU Information](#))
- Introduced Redfish schema to support `MultipartHttp UpdateService` for DPU BMC and CEC Firmware update ([BMC and CEC Firmware Operations](#))
- Added Redfish schema for the BlueField Arm network interfaces (OOB and data ports) ([BlueField Host Network Interface](#))
- Included LLDP Redfish schema for the BlueField BMC's 1Gb/s interface (LLDP in Redfish)
- Enhanced Redfish support for the service identification property ([Product Instance Identifier](#))
- Enforced ipmitool user privilege policy

## Changes and New Features in v24.01

- Expanded the BMC dump log to incorporate data from the NIC firmware. A new log containing NIC device debug information has been introduced and is now accessible on NVIDIA® BlueField®-3 systems.
- Enabled DPU BMC to facilitate soft shutdown requests to the embedded CPU via both IPMI and Redfish protocols
- Upgraded the Linux Kernel version to 5.15 in the OpenBMC system
- Added IPMI and Redfish commands to disable/enable DPU Arm out-of-band (OOB) access to the management network
- Added new entries to the BMC system event log (SEL) or BMC operation log, enhancing support for BMC operations
- Incorporated a Redfish command for the deployment of BIOS CA certificates
- Updated BMC [password policy](#)
- Added support for simple `HttpMultiPart` update for [BMC and eROT firmware](#)

## Changes and New Features in v23.10

- NVIDIA® BlueField®-3 Redfish enhancements:
  - Included phosphor-logging entry for dumping `/dev/rshim/misc` messages
  - Implemented Redfish-based firmware configuration for switching between BlueField DPU mode and NIC mode for BlueField-3
  - Added an OEM API for enabling/disabling BMC RShim, offering more control over this critical component
- Enhanced debuggability for the DPU BMC which includes the ability to store DPU console/serial logs for troubleshooting and analysis
- Deployment of a more restrictive firewall policy to enhance system security
- Added power-capping control capabilities from the DPU BMC, providing greater power management flexibility
- Added an OEM API for key-based authentication
- Incorporated the `wget` application into the BMC OS
- Enhanced the system with the ability to enable\disable the DPU OOB port using IPMI commands
- Removed DPU BMC SMBus master capabilities
- CEC1736 EC firmware upgrade to version 00.02.0152.0000 – the boot completion timeout for CEC1736 has been increased from 2 minutes to 8 minutes in this version to ensure that the BMC completes its boot process within the allotted time. If the BMC fails to boot within that period, the CEC1736 initiates a reset of the BMC.

### **Note**

This change may lead to undesired system behavior:

- If a new BMC firmware update is in progress during this period, the CEC1736 reverts to the previous version of the BMC firmware

- If the BMC fails to provide six boot complete indications, the CEC1736 interrupts the BMC boot process, necessitating a full reset cycle to recover the DPU BMC

## Changes and New Features in v23.09

- The NCSIoMCTPoSMBus interface has been activated to facilitate communication between the DPU BMC and the NIC subsystem. This activation has introduced several enhanced functionalities to the NIC subsystem's firmware, including:
  - Configuring and retrieving the DPU's operational mode
  - Configuring and retrieving the status of the RShim
  - Retrieving the strap values of the NIC subsystem on the DPU
  - Obtaining information about the OS state
- Added the ability to control BIOS secure boot configuration through the Redfish interface

## Changes and New Features in v23.07

- Allow programmatic changing of BIOS/UEFI parameters via the Redfish API
- Support UEFI HTTP boot using Redfish
- Allow programmatic mechanism for changing BIOS/UEFI boot order using Redfish
- Implemented the Certificate, CertificateLocations, and CertificateService schema in the NIC BMC, including certificate information
- Implemented Redfish-based firmware update using the SimpleUpdate SCP schema for DPU recovery
- DPU BMC indication of the reset/reboot state

## Changes and New Features in v23.04-3

- Added support for BMCs of BlueField-3 DPUs
- Add support for Serial Console Redirection



- Added Redfish service with the underlying schemas:
  - Redfish chassis schema to represent the DPU chassis elements including:
    - `/redfish/v1/Chassis/Card1`
    - `/redfish/v1/Chassis/Bluefield_BMC`
    - `/redfish/v1/Chassis/Bluefield_ERoT`
  - Redfish sensor schema:
    - `/redfish/v1/Chassis/Card1/Sensors/`
  - NetworkAdapter schema representing a physical network adapter capable of connecting to a computer network:
    - `/redfish/v1/Chassis/Card1/NetworkAdapters`
  - NetworkDeviceFunction schema representing a logical interface that a network adapter exposes:
    - `/redfish/v1/Chassis/Card1/NetworkAdapters/{NetworkAdapterName}/NetworkDeviceFunctions`
  - Port schema containing properties that describe a port of a switch, controller, chassis, or any other device that could be connected to another entity:
    - `/redfish/v1/Chassis/Card1/NetworkAdapters/{NetworkAdapterName}/Ports`
  - Management subsystem schema:
    - `/redfish/v1/Managers/Bluefield_BMC`
  - Updated service and the properties that affect the service itself for Redfish implementation:
    - `/redfish/v1/UpdateService`
  - Redfish FirmwareInventory schema:
    - `/redfish/v1/UpdateService/FirmwareInventory`

- Redfish log service:
  - `/redfish/v1/Managers/Bluefield_BMC/LogServices`
- Redfish user account for the system manager:
  - `/redfish/v1/AccountService`
  - `/redfish/v1/AccountService/Roles`
  - `/redfish/v1/SessionService/Sessions`
- Redfish session service properties:
  - `/redfish/v1/SessionService`
- Redfish task service:
  - `/redfish/v1/TaskService`

## Changes and New Features in 2.8.2-34

- Updated LLDPAD to be enabled by default

## Changes and New Features in 2.8.2

- First software GA release

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