



Reset Control

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(i) Note

Rebooting NVIDIA® BlueField®-2 immediately after rebooting its BMC is restricted. The user should wait until the IPMI service becomes operational before rebooting BlueField-2, with a recommended wait of 30 seconds.

Reset Control Using Redfish

Issue the following command from the BMC to get the power status of the BlueField networking platform (DPU or SuperNIC):

```
sudo curl -k -u root:'<password>' -H 'Content-Type: application/json' -X GET https://<bmc_ip>/redfish/v1/Systems/Bluefield/
```

Example output:

```
{
  ...
  "PowerRestorePolicy": "AlwaysOn",
  "PowerState": "On",
  ...
}
```

Hard Reset of BlueField Arm Cores and NIC Subsystem

(i) Note

A hard reset of BlueField is permitted only when all connected hosts assert the PERST signal. It is crucial for all host devices to assert the PERST signal when BlueField-3 is shared among multiple hosts to enable a hard reset.

```
curl -k -u root:'<password>' -H "Content-Type: application/json"
-X POST
https://<bmc_ip>/redfish/v1/Systems/Bluefield/Actions/ComputerSystem
-d '{"ResetType" : "PowerCycle"}
```

Info

Refer to the "[RedFish Post \(Action\)](#)" section in Redfish Specification DSP0266 for an example of successful action response.

Force Hard Reset of BlueField Arm Cores and NIC Subsystem

Info

Force hard reset of the BlueField happens without waiting for `All_STANDBY` or `PERST`. Users must make sure the server is ready for the reset!

```
curl -k -u root:'<password>' -H "Content-Type: application/json"  
-X POST  
https://<bmc_ip>/redfish/v1/Systems/Bluefield/Oem/Nvidia/SOC.Forcef
```

Info

Refer to the "[Redfish Post \(Action\)](#)" section in Redfish Specification DSP0266 for an example of successful action response.

Hard Reset of BlueField Arm Cores

```
curl -k -u root:'<password>' -H "Content-Type: application/json"  
-X POST  
https://<bmc_ip>/redfish/v1/Systems/Bluefield/Actions/ComputerSystem  
-d '{"ResetType" : "ForceRestart"}'
```

Info

Refer to the "[Redfish Post \(Action\)](#)" section in Redfish Specification DSP0266 for an example of successful action response.

Soft Shutdown of BlueField Arm OS

(i) Note

This command is relevant only for BlueField-3 devices.

(i) Note

The following is supported when operating in DPU mode only.

```
curl -k -u root:'<password>' -H "Content-Type: application/json"
-X POST
https://<bmc_ip>/redfish/v1/Systems/Bluefield/Actions/ComputerSystem.Reset
-d '{"ResetType": "GracefulShutdown"}'
```

(i) Info

Refer to the "[RedFish Post \(Action\)](#)" section in Redfish Specification DSP0266 for an example of successful action response.

Monitoring BlueField Arm OS Shutdown with Redfish

When the BlueField Arm OS shuts down successfully, `PowerState` changes to `Paused` and `StatusState` changes to `StandbyOffline`.

```
curl -k -u root:'<password>' -H "Content-Type: application/json"
-X GET https://<bmc_ip>/redfish/v1/Systems/Bluefield
```

Example output:

```
...  
"PowerState": "Paused",  
...  
"Status": {  
  "Health": "OK",  
  "HealthRollup": "OK",  
  "State": "StandbyOffline"  
},  
...
```

Reset Control Using IPMI

BMC supports reset control of NVIDIA® BlueField® through the GPIOs connected to the BMC.

Issue the following command from the BMC to get the power status of BlueField:

```
ipmitool chassis power status
```

To perform a reset operation on BlueField, use the following IPMI commands:

Description	Command
Hard reset of BlueField (Arm cores and NIC)	<pre>ipmitool chassis power cycle</pre>
Hard reset of BlueField Arm cores	<pre>ipmitool chassis</pre>

Description	Command
	<pre>power reset</pre>
<p data-bbox="159 342 685 373">Soft Shutdown of BlueField Arm OS</p> <div data-bbox="159 436 951 657" style="background-color: #ffffcc; padding: 10px;"> <p data-bbox="188 478 350 520">(i) Note</p> <p data-bbox="261 531 760 604">This command is relevant only for BlueField-3.</p> </div>	<pre>ipmitool power soft</pre>

These commands update the most recent restart cause, which can be retrieved using `ipmitool chassis restart_cause`. The value will be reported as "Chassis Control Command".

(i) Note

A hard reset of BlueField is permitted only when all connected hosts assert the PERST signal. This is particularly important when BlueField-3 is shared among multiple hosts. In such cases, each host must assert PERST to ensure that a hard reset can be safely executed.

(i) Note

Soft shutdown of BlueField Arm OS is allowed only when the Arm OS is running. To retrieve the Arm OS state, refer to the `0xA3` command under "[IPMItool NIC Subsystem Management](#)".

(i) Note

Between each reset control, there should be a wait until the system finishes the operation.

- 20-second wait in BlueField-2
- 5-second wait in BlueField-3

OEM command `0xA1` is defined for additional non-standard reset controls of BlueField from BMC under the OEM NetFn group `0x30`.

NVIDIA OEM command to reset the BlueField:

Request	Response	Reset Option
<ul style="list-style-type: none"> • <code>0x32</code> – NetFun • <code>0xA1</code> – command • <code>0x00</code> – Req_data1 (reset option) 	<p>Completion code:</p> <ul style="list-style-type: none"> • <code>0x00</code> – success • <code><ipmi-error-code></code> – failure 	<ul style="list-style-type: none"> • <code>0x02</code> – soft reset of BlueField Arm cores <div style="background-color: #ffffcc; padding: 10px; margin: 10px 0;"> <p>i Info This reset command is only available when the BlueField Arm OS is up.</p> </div> <p>This option updates the latest restart cause, retrieved via <code>ipmitool chassis restart_cause</code>, to "Soft Reset".</p> <ul style="list-style-type: none"> • <code>0x03</code> – reset on-board 3-port switch

Monitoring BlueField OS Shutdown Using IPMI

After a successful shutdown, the BlueField Arm enters a low-power standby state.

i Info

The BlueField Arm cannot be fully powered off, and Standby is its final state

To get the BlueField 's OS state, refer to the `0xA3` command under "[IPMItool NIC Subsystem Management](#)".

To get the BlueField Arm to boot back to the BlueField Arm OS, users can either power cycle BlueField or perform a hard reset of the BlueField Arm.

 **Info**

The output of IPMItool chassis power status will show "Chassis power is on".

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