



System Processor

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Note

System processor information is sourced from the UEFI and stored in the BMC's persistent memory. This data may be lost after a BMC factory reset and will be restored upon the next UEFI reboot.

Processor Summary

A high-level summary of the BlueField processors is available in the `ProcessorSummary` object within the Redfish `ComputerSystem` schema.

To retrieve this information, run the following command:

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

Example output:

```

{
  ...,
  "@odata.id": "/redfish/v1/Systems/Bluefield",
  "@odata.type": "#ComputerSystem.v1_22_0.ComputerSystem",
  ...,
  "ProcessorSummary": {
    "CoreCount": 16,
    "Count": 1,
    "Model": "ARMv8"
  },
  "Processors": {
    "@odata.id": "/redfish/v1/Systems/Bluefield/Processors"
  },
  ...
}

```

The `ProcessorSummary` provides:

- `CoreCount` – Total number of cores across all processors.
- `Count` – Total number of processors.
- `Model` – Processor model of the primary processor.

Processor Collection

A detailed list of system processors is available in the `ProcessorCollection` object.

To retrieve the processor collection, run:

```

curl -k -u <bmc_username>:<bmc_password> -H 'Content-Type:
application/json' -X GET
https://<bmc_ip>/redfish/v1/Systems/Bluefield/Processors

```

Example output:

```
{
  "@odata.id": "/redfish/v1/Systems/Bluefield/Processors",
  "@odata.type": "#ProcessorCollection.ProcessorCollection",
  "Members": [
    {
      "@odata.id":
"/redfish/v1/Systems/Bluefield/Processors/CPU_0"
    }
  ],
  "Members@odata.count": 1,
  "Name": "Processor Collection"
}
```

Each entry in the `Members` array represents a processor in the system. In this example, the collection contains a single processor: `CPU_0`.

Individual Processor Information

Detailed information about an individual processor is provided in the Redfish `Processor` schema.

To retrieve information for `CPU_0`, run the following command:

```
curl -k -u <bmc_username>:<bmc_password> -H 'Content-Type:
application/json' -X GET
https://<bmc_ip>/redfish/v1/Systems/Bluefield/Processors/CPU_0
```

Example output:

```

{
  "@Redfish.Settings": {
    "@odata.type": "#Settings.v1_3_3.Settings",
    "SettingsObject": {
      "@odata.id":
"/redfish/v1/Systems/Bluefield/Processors/CPU_0/Settings"
    }
  },
  "@odata.id":
"/redfish/v1/Systems/Bluefield/Processors/CPU_0",
  "@odata.type": "#Processor.v1_20_0.Processor",
  "EnvironmentMetrics": {
    "@odata.id":
"/redfish/v1/Systems/Bluefield/Processors/CPU_0/EnvironmentMetrics
  },
  "Id": "CPU_0",
  "Links": {
    "Chassis": {
      "@odata.id": "/redfish/v1/Chassis/Card1"
    }
  },
  "Location": {
    "PartLocation": {
      "ServiceLabel": "Socket 0"
    }
  },
  "Manufacturer": "https://www.mellanox.com",
  "MaxSpeedMHz": 2135,
  "Metrics": {
    "@odata.id":
"/redfish/v1/Systems/Bluefield/Processors/CPU_0/ProcessorMetrics"
  },
  "Model": "Mellanox BlueField-3 [A1] A78(D42) 16 Cores r0p1",
  "Name": "Processor",
  "PartNumber": "OPN: 9009D3B600CVAA",

```

```

    "Ports": {
      "@odata.id":
"/redfish/v1/Systems/Bluefield/Processors/CPU_0/Ports"
    },
    "ProcessorId": {
      "EffectiveFamily": "0x0101",
      "IdentificationRegisters": "0x00000000410FD421"
    },
    "ProcessorType": "CPU",
    "SerialNumber": "Unspecified Serial Number",
    "Socket": "Socket 0",
    "Status": {
      "Conditions": [],
      "Health": "OK",
      "State": "Enabled"
    },
    "TotalCores": 16,
    "TotalThreads": 16,
    "Version": "Mellanox BlueField-3 [A1] A78(D42) 16 Cores r0p1"
  }

```

Supported Properties

Property	Type	Description
Id	string	Unique identifier of the processor.
MaxSpeedMHz	integer (MHz)	Maximum clock speed of the processor.
Model	string	Processor model number (matches the <code>Version</code> property).
Name	string	Name of the processor.
PartNumber	string	Part number assigned to the processor.
ProcessorType	string	Type of processor (e.g., CPU, GPU).

Property	Type	Description
Status	object	Status object reporting health and operational state.
TotalCores	integer	Total number of cores in the processor.
TotalThreads	integer	Total number of execution threads supported by the processor.
Version	string	Hardware version of the processor.

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