# Unique Device Identifier Retrieval

The Unique Device Identifier (UDI) Retrieval feature provides the ability to retrieve and display the UDI information from any Cisco product that has electronically stored such identity information.

Your software release may not support all the features that are documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. The Feature Information Table at the end of this document provides information about the documented features and lists the releases in which each feature is supported.

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# Hardware Compatibility Matrix for the Cisco cBR Series Routers

**Note** The hardware components that are introduced in a given Cisco IOS-XE Release are supported in all subsequent releases unless otherwise specified.

*Table 1: Hardware Compatibility Matrix for the Cisco cBR Series Routers*

| Cisco CMTS Platform | Processor Engine | Interface Cards |
|---|---|---|
| Cisco cBR-8 Converged Broadband Router | **Cisco IOS-XE Release 16.5.1 and Later Releases**<br>Cisco cBR-8 Supervisor:<br>• PID—CBR-SUP-250G<br>• PID—CBR-CCAP-SUP-160G | **Cisco IOS-XE Release 16.5.1 and Later Releases**<br>Cisco cBR-8 CCAP Line Cards:<br>• PID—CBR-LC-8D30-16U30<br>• PID—CBR-LC-8D31-16U30<br>• PID—CBR-RF-PIC<br>• PID—CBR-RF-PROT-PIC<br>• PID—CBR-CCAP-LC-40G<br>• PID—CBR-CCAP-LC-40G-R<br>• PID—CBR-CCAP-LC-G2-R<br>• PID—CBR-SUP-8X10G-PIC<br>• PID—CBR-2X100G-PIC<br>Digital PICs:<br>• PID—CBR-DPIC-8X10G<br>• PID—CBR-DPIC-2X100G<br>Cisco cBR-8 Downstream PHY Module:<br>• PID—CBR-D31-DS-MOD<br>Cisco cBR-8 Upstream PHY Modules:<br>• PID—CBR-D31-US-MOD |

**Note** Do not use DPICs (8X10G and 2x100G) to forward IP traffic, as it may cause buffer exhaustion, leading to line card reload.

The only allowed traffic on a DPIC interface is DEPI, UEPI, and GCP traffic from the Cisco cBR-8 router to Remote PHY devices. Other traffic such as DHCP, SSH, and UTSC should flow via another router, since DPICs cannot be used for normal routing.

# Unique Device Identifier Overview

Each identifiable product is an entity, as defined by the Entity MIB (RFC-2737) and its supporting documents. Some entities, such as a chassis, will have sub-entities like slots. An Ethernet switch might be a member of a super-entity like a stack. Most Cisco entities that can be ordered leave the factory with an assigned UDI. The UDI information is printed on a label that is affixed to the physical hardware device, and it is also stored electronically on the device in order to facilitate remote retrieval.

A UDI consists of the following elements:

- Product identifier (PID)
- Version identifier (VID)
- Serial number (SN)

The PID is the name by which the product can be ordered; it has been historically called the "Product Name" or "Part Number." This is the identifier that one would use to order an exact replacement part.

The VID is the version of the product. Whenever a product has been revised, the VID will be incremented. The VID is incremented according to a rigorous process derived from Telcordia GR-209-CORE, an industry guideline that governs product change notices.

The SN is the vendor-unique serialization of the product. Each manufactured product will carry a unique serial number assigned at the factory, which cannot be changed in the field. This is the means by which to identify an individual, specific instance of a product.

# Benefits of the Unique Device Identifier Retrieval Feature

- Identifies individual Cisco products in your networks.
- Reduces operating expenses for asset management through simple, cross-platform, consistent identification of Cisco products.
- Identifies PIDs for replaceable products.
- Facilitates discovery of products subject to recall or revision.
- Automates Cisco product inventory (capital and asset management).
- Provides a mechanism to determine the entitlement level of a Cisco product for repair and replacement service.

**Product Item Descriptor for Cable Products**

For information on the Product Item Descriptor (PID), see the product hardware installation guide available on Cisco.com.

# Retrieving the Unique Device Identifier

To use UDI retrieval, the Cisco product in use must be UDI-enabled. A UDI-enabled Cisco product supports five required Entity MIB objects. The five Entity MIB v2 (RFC-2737) objects are:

- entPhysicalName
- entPhysicalDescr
- entPhysicalModelName

- entPhysicalHardwareRev
- entPhysicalSerialNum

Although the **show inventory** command may be available, using that command on devices that are not UDI-enabled will likely produce no output.

Enter the **show inventory** command to retrieve and display information about all of the Cisco products installed in the networking device that are assigned a PID, VID, and SN. If a Cisco entity is not assigned a PID, that entity is not retrieved or displayed.

```
Router# show inventory

NAME: "Chassis", DESCR: "Cisco cBR-8 CCAP Chassis"
PID: CBR-8-CCAP-CHASS  , VID: V01, SN: FXS1739Q0PR

NAME: "clc 3", DESCR: "Cisco cBR CCAP Line Card"
PID: CBR-CCAP-LC-40G   , VID: V01, SN: TEST1234567

NAME: "Cable PHY Module", DESCR: "CLC Downstream PHY Module 3/0"
PID: CBR-D30-DS-MOD    , VID: V01, SN: CAT1725E1BZ

NAME: "Cable PHY Module", DESCR: "CLC Downstream PHY Module 3/1"
PID: CBR-D30-DS-MOD    , VID: V01, SN: CAT1725E1AT

NAME: "Cable PHY Module", DESCR: "CLC Upstream PHY Module 3/2"
PID: CBR-D30-US-MOD    , VID: V01, SN: CAT1717E0FF

NAME: "sup 1", DESCR: "Cisco cBR CCAP Supervisor Card"
PID: CBR-CCAP-SUP-60G  , VID: V01, SN: CAT1824E0MT

NAME: "harddisk 5/1", DESCR: "Hard Disk"
PID: UGB88RTB100HE3-BCU-DID, VID:    , SN: 11000066829

NAME: "sup-pic 5/1", DESCR: "Cisco cBR CCAP Supervisor Card PIC"
PID: CBR-SUP-8X10G-PIC , VID: V01, SN: CAT1720E0F4

NAME: "SFP+ module 5/1/0", DESCR: "iNSI xcvr"
PID: SFP+ 10GBASE-SR   , VID: A   , SN: FNS172720X6

NAME: "SFP+ module 5/1/1", DESCR: "iNSI xcvr"
PID: SFP+ 10GBASE-LR   , VID: A   , SN: UGT085P

NAME: "SFP+ module 5/1/2", DESCR: "iNSI xcvr"
PID: SFP+ 10GBASE-LR   , VID: A   , SN: UGT087Z

NAME: "SFP+ module 5/1/3", DESCR: "iNSI xcvr"
PID: SFP+ 10GBASE-SR   , VID: G4.1, SN: AVD1729A38T

NAME: "SFP+ module 5/1/7", DESCR: "iNSI xcvr"
PID: 10GE ZR           , VID: A   , SN: FNS11300AUH

NAME: "Power Supply Module 0", DESCR: "Cisco cBR CCAP AC Power Supply"
PID: PWR-3KW-AC-V2     , VID: V02, SN: DTM17370345

NAME: "Power Supply Module 2", DESCR: "Cisco cBR CCAP AC Power Supply"
PID: PWR-3KW-AC-V2     , VID: V02, SN: DTM173702KF
```

For diagnostic purposes, the **show inventory** command can be used with the **raw** keyword to display every RFC 2737 entity including those without a PID, UDI, or other physical identification.

**Note** The **raw** keyword option is primarily intended for troubleshooting problems with the **show inventory** command itself.

```
Router# show inventory raw

NAME: "Chassis", DESCR: "Cisco cBR-8 CCAP Chassis"
PID: CBR-8-CCAP-CHASS  , VID: V01, SN: FXS1739Q0PR

NAME: "slot 0/0", DESCR: "Chassis Slot"
PID:                   , VID:    , SN:

NAME: "slot 0/1", DESCR: "Chassis Slot"
PID:                   , VID:    , SN:

NAME: "slot 1/0", DESCR: "Chassis Slot"
PID:                   , VID:    , SN:

NAME: "slot 1/1", DESCR: "Chassis Slot"
PID:                   , VID:    , SN:

NAME: "slot 2/0", DESCR: "Chassis Slot"
PID:                   , VID:    , SN:

NAME: "slot 2/1", DESCR: "Chassis Slot"
PID:                   , VID:    , SN:

NAME: "slot 3/0", DESCR: "Chassis Slot"
PID:                   , VID:    , SN:

NAME: "clc 3", DESCR: "Cisco cBR CCAP Line Card"
PID: CBR-CCAP-LC-40G   , VID: V01, SN: TEST1234567

NAME: "12_CUR: Sens 3/0", DESCR: "12_CUR: Sens"
PID:                   , VID:    , SN:

NAME: "12_CUR: Vin 3/1", DESCR: "12_CUR: Vin"
PID:                   , VID:    , SN:

NAME: "12_CUR: ADin 3/2", DESCR: "12_CUR: ADin"
PID:                   , VID:    , SN:

NAME: "G0_CUR: Sens 3/3", DESCR: "G0_CUR: Sens"
PID:                   , VID:    , SN:

NAME: "G0_CUR: Vin 3/4", DESCR: "G0_CUR: Vin"
PID:                   , VID:    , SN:

NAME: "G0_CUR: ADin 3/5", DESCR: "G0_CUR: ADin"
PID:                   , VID:    , SN:

NAME: "G1_CUR: Sens 3/6", DESCR: "G1_CUR: Sens"
PID:                   , VID:    , SN:

NAME: "G1_CUR: Vin 3/7", DESCR: "G1_CUR: Vin"
PID:                   , VID:    , SN:

NAME: "G1_CUR: ADin 3/8", DESCR: "G1_CUR: ADin"
PID:                   , VID:    , SN:

NAME: "LB_CUR: Sens 3/9", DESCR: "LB_CUR: Sens"
```

```
PID:                    , VID:    , SN:

NAME: "LB_CUR: Vin 3/10", DESCR: "LB_CUR: Vin"
PID:                    , VID:    , SN:

NAME: "LB_CUR: ADin 3/11", DESCR: "LB_CUR: ADin"
PID:                    , VID:    , SN:

NAME: "Temp: CAPRICA 3/12", DESCR: "Temp: CAPRICA"
PID:                    , VID:    , SN:

NAME: "Temp: BASESTAR 3/13", DESCR: "Temp: BASESTAR"
PID:                    , VID:    , SN:

NAME: "Temp: RAIDER 3/14", DESCR: "Temp: RAIDER"
PID:                    , VID:    , SN:

NAME: "Temp: CPU 3/15", DESCR: "Temp: CPU"
PID:                    , VID:    , SN:

NAME: "Temp: INLET 3/16", DESCR: "Temp: INLET"
PID:                    , VID:    , SN:

NAME: "Temp: OUTLET 3/17", DESCR: "Temp: OUTLET"
PID:                    , VID:    , SN:

NAME: "Temp: DIGITAL 3/18", DESCR: "Temp: DIGITAL"
PID:                    , VID:    , SN:

NAME: "Temp: UPX 3/19", DESCR: "Temp: UPX"
PID:                    , VID:    , SN:
```

# Troubleshooting Tips

If any of the Cisco products do not have an assigned PID, the output may display incorrect PIDs and the VID and SN elements may be missing, as in the following example.

```
NAME: "POS3/0/0", DESCR: "Skystone 4302 Sonet Framer"

PID: FastEthernet, VID: , SN:

NAME: "Serial1/0", DESCR: "M4T"

PID: M4T                , VID:    , SN:
```

In the sample output, the PID is exactly the same as the product description. The UDI is designed for use with new Cisco products that have a PID assigned. UDI information on older Cisco products is not always reliable.

# Additional References

### Related Documents

| Related Topic | Document Title |
|---|---|
| Information about managing configuration files | Cisco IOS Configuration Fundamentals Configuration Guide |
| Commands for showing interface statistics | Cisco IOS Interface Command Reference |

### Standards and RFCs

| Standard/RFC | Title |
|---|---|
| RFC 2737 | *Entity MIB (Version 2)* |

### MIBs

| MIB | MIBs Link |
|---|---|
| CISCO-ENTITY-ASSET-MIB | To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:<br>http://www.cisco.com/go/mibs |

### Technical Assistance

| Description | Link |
|---|---|
| The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.<br>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.<br>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password. | http://www.cisco.com/cisco/web/support/index.html |

# Feature Information for Unique Device Identifier Retrieval

Use Cisco Feature Navigator to find information about the platform support and software image support. Cisco Feature Navigator enables you to determine which software images support a specific software release,

feature set, or platform. To access Cisco Feature Navigator, go to the https://cfnng.cisco.com/ link. An account on the Cisco.com page is not required.

**Note** The following table lists the software release in which a given feature is introduced. Unless noted otherwise, subsequent releases of that software release train also support that feature.

***Table 2: Feature Information for Unique Device Identifier Retrieval***

| Feature Name | Releases | Feature Information |
|---|---|---|
| Unique Device Identifier Retrieval | Cisco IOS XE Everest 16.6.1 | This feature was integrated into Cisco IOS XE Everest 16.6.1 on the Cisco cBR Series Converged Broadband Routers. |