



# Unique Device Identifier Retrieval for the Cisco CMTS

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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.



**Note**

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Cisco IOS Release 12.2(33)SCA integrates support for this feature on the Cisco CMTS routers. This feature is also supported in Cisco IOS Release 12.3BC, and this document contains information that references many legacy documents related to Cisco IOS 12.3BC. In general, any references to Cisco IOS Release 12.3BC also apply to Cisco IOS Release 12.2SC.

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## Finding Feature Information

Your software release may not support all the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the Feature Information Table at the end of this document.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to <http://tools.cisco.com/ITDIT/CFN/>. An account on <http://www.cisco.com/> is not required.

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# 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: "", DESCR: "uBR10000 chassis, Hw Serial#: SPE08450FQA, Hw Revision: 1.1"
PID: uBR10000 , VID: 1.1, SN: SPE08450FQA
NAME: "slot 0/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "Routing Processor"
PID: Routing Processor , VID: 1.0, SN: CAT09030GVK
NAME: "PRE_A:FastEthernet0/0/0", DESCR: "Network Management Ethernet"
PID: Network Management Ethernet, VID: , SN:
NAME: "", DESCR: "Temperature Sensor"
PID: Temperature Sensor, VID: , SN:
NAME: "", DESCR: "Forwarding Processor"
PID: Forwarding Processor, VID: 1.0, SN: CAT09030GBL
NAME: "slot 0/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 1/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 1/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 2/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "lgigetherenet-1"
PID: lgigetherenet-1 , VID: 1.0, SN: CAB0542KX74
NAME: "GigabitEthernet2/0/0", DESCR: "Gigabit Ethernet MAC Controller"
PID: Gigabit Ethernet MAC Controller, VID: Unknown Rev, SN:
NAME: "slot 2/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 3/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "loc12pos-1"
PID: loc12pos-1 , VID: 2.0, SN: CAB0437ECQU
NAME: "POS3/0/0", DESCR: "Skystone 4302 Sonet Framer"
PID: Skystone 4302 Sonet Framer, VID: 0xFFFF, SN:
NAME: "slot 3/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 4/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 4/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 5/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 5/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "MC520S_D_connector"
PID: MC520S_D_connector, VID: 1.1, SN: CAT08510MM0
NAME: "Cable5/1-MAC0", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:
NAME: "Cable5/1-MAC1", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:
NAME: "Cable5/1-MAC2", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:
```

```

NAME: "Cable5/1-MAC3", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:
NAME: "Cable5/1-MAC4", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:
NAME: "Cable5/1-US0", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US1", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US2", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US3", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US4", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US5", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US6", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US7", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US8", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US9", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US10", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US11", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US12", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US13", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US14", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US15", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US16", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US17", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US18", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US19", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-DS0", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "Cable5/1-DS1", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "Cable5/1-DS2", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "Cable5/1-DS3", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "Cable5/1-DS4", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "slot 6/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 6/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 7/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 7/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 8/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 8/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "Container for Power Supply"
PID: Container for Power Supply, VID: , SN:
NAME: "", DESCR: "Power Supply"
PID: Power Supply , VID: , SN:
NAME: "", DESCR: "Power Supply"
PID: Power Supply , VID: , SN:
NAME: "", DESCR: "Container for Fan Tray"

```

```

PID: Container for Fan Tray, VID: , SN:
NAME: "", DESCR: "Fan Tray"
PID: Fan Tray , VID: , SN:
NAME: "", DESCR: "Fan"
PID: Fan , VID: , SN:
NAME: "", DESCR: "Fan"
PID: Fan , VID: , SN:
NAME: "", DESCR: "Backplane"
PID: Backplane , VID: 1.1, SN: SPE08450FQA

```

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

NMS-RACK9-UBR10K-1#sh inventory raw
NAME: "", DESCR: "uBR10000 chassis, Hw Serial#: SPE08450FQA, Hw Revision: 1.1"
PID: uBR10000 , VID: 1.1, SN: SPE08450FQA
NAME: "slot 0/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "Routing Processor"
PID: Routing Processor , VID: 1.0, SN: CAT09030GVK
NAME: "PRE_A:FastEthernet0/0/0", DESCR: "Network Management Ethernet"
PID: Network Management Ethernet, VID: , SN:
NAME: "", DESCR: "Temperature Sensor"
PID: Temperature Sensor, VID: , SN:
NAME: "", DESCR: "Forwarding Processor"
PID: Forwarding Processor, VID: 1.0, SN: CAT09030GBL
NAME: "slot 0/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 1/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 1/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 2/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "lgigetherenet-1"
PID: lgigetherenet-1 , VID: 1.0, SN: CAB0542KX74
NAME: "GigabitEthernet2/0/0", DESCR: "Gigabit Ethernet MAC Controller"
PID: Gigabit Ethernet MAC Controller, VID: Unknown Rev, SN:
NAME: "slot 2/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 3/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "loc12pos-1"
PID: loc12pos-1 , VID: 2.0, SN: CAB0437ECQU
NAME: "POS3/0/0", DESCR: "Skystone 4302 Sonet Framer"
PID: Skystone 4302 Sonet Framer, VID: 0xFFFF, SN:
NAME: "slot 3/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 4/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 4/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 5/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 5/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "MC520S D connector"
PID: MC520S D connector, VID: 1.1, SN: CAT08510MM0
NAME: "Cable5/1-MAC0", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:
NAME: "Cable5/1-MAC1", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:

```

```

NAME: "Cable5/1-MAC2", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:
NAME: "Cable5/1-MAC3", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:
NAME: "Cable5/1-MAC4", DESCR: "UBR10000 CLC"
PID: UBR10000 CLC , VID: 0x0 , SN:
NAME: "Cable5/1-US0", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US1", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US2", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US3", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US4", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US5", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US6", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US7", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US8", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US9", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US10", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US11", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US12", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US13", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US14", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US15", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US16", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US17", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US18", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-US19", DESCR: "LBT4522 PHY"
PID: LBT4522 PHY , VID: 4522, SN:
NAME: "Cable5/1-DS0", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "Cable5/1-DS1", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "Cable5/1-DS2", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "Cable5/1-DS3", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "Cable5/1-DS4", DESCR: "BCM3033 PHY"
PID: BCM3033 PHY , VID: 3033, SN:
NAME: "slot 6/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 6/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 7/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 7/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 8/0/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "slot 8/1/0", DESCR: "Chassis Slot"
PID: Chassis Slot , VID: , SN:
NAME: "", DESCR: "Container for Power Supply"
PID: Container for Power Supply, VID: , SN:
NAME: "", DESCR: "Power Supply"
PID: Power Supply , VID: , SN:
NAME: "", DESCR: "Power Supply"

```

```

PID: Power Supply , VID: , SN:
NAME: "", DESCR: "Container for Fan Tray"
PID: Container for Fan Tray, VID: , SN:
NAME: "", DESCR: "Fan Tray"
PID: Fan Tray , VID: , SN:
NAME: "", DESCR: "Fan"
PID: Fan , VID: , SN:
NAME: "", DESCR: "Fan"
PID: Fan , VID: , SN:
NAME: "", DESCR: "Backplane"
PID: Backplane , VID: 1.1, SN: SPE08450FQA

NAME: "fan 1", DESCR: "Fan"
PID: , VID: , SN:
NAME: "fan 2", DESCR: "Fan"
PID: , VID: , SN:
NAME: "Backplane", DESCR: "Backplane"
PID: , VID: , SN: SPE08450FQA

```

## 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	<a href="#">Cisco IOS Configuration Fundamentals Configuration Guide</a>
Commands for showing interface statistics	<a href="#">Cisco IOS Interface Command Reference</a>

### Standards and RFCs

Standard/RFC	Title
RFC 2737	<i>Entity MIB (Version 2)</i>

**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: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

**Technical Assistance**

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>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.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	<a href="http://www.cisco.com/cisco/web/support/index.html">http://www.cisco.com/cisco/web/support/index.html</a>