



DHCP Vendor Option Support



Note To achieve simplification and consistency, the Cisco SD-WAN solution has been rebranded as Cisco Catalyst SD-WAN. In addition, from Cisco IOS XE SD-WAN Release 17.12.1a and Cisco Catalyst SD-WAN Release 20.12.1, the following component changes are applicable: **Cisco vManage to Cisco Catalyst SD-WAN Manager**, **Cisco vAnalytics to Cisco Catalyst SD-WAN Analytics**, **Cisco vBond to Cisco Catalyst SD-WAN Validator**, **Cisco vSmart to Cisco Catalyst SD-WAN Controller**, and **Cisco Controllers to Cisco Catalyst SD-WAN Control Components**. See the latest Release Notes for a comprehensive list of all the component brand name changes. While we transition to the new names, some inconsistencies might be present in the documentation set because of a phased approach to the user interface updates of the software product.

Table 1: Feature History

| Feature Name | Release Information | Description |
|----------------------------|--|--|
| DHCP Vendor Option Support | Cisco IOS XE Catalyst SD-WAN Release 17.10.1a Cisco vManage Release 20.10.1 | This feature allows DHCP client options, 124 and 125 to configure vendor-specific information in client-server exchanges. Configure this feature using the CLI Add-on feature template in Cisco SD-WAN Manager. |

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Information about DHCP Vendor Option Support

The configurable dynamic host configuration protocol client functionality allows a DHCP client to use a user-specified client identifier, class identifier, or suggested lease time when requesting an address from a DHCP server.

Configuration parameters and other control information are carried in tagged data items that are stored in the options field of the DHCP message. The DHCP client provides flexibility by allowing the following options to be configured for a DHCP client:

- Option 124—This option is used by DHCP clients and servers to exchange vendor-class information.
- Option 125—This option is used by DHCP clients and servers to exchange vendor-specific information.

In the DHCP address assignment workflow, Option 124 (Vendor-Identifying Vendor Class) and Option 125 (Vendor-Identifying Information) are used to provide differential services. These options are used by Zero-Touch Provisioning (ZTP), Cisco Plug-and-Play (PnP), and Identity Services Engine (ISE) across solutions to enable several use cases. For example, the content of Option 124 is used for device classification, enable solution specific feature and so on.

By default, Cisco IOS XE DHCP client sends the following data:

| Attribute | IPv4 DHCP Option | Default Value |
|--|------------------|---------------|
| Vendor-Identifying Vendor Class Option | 124 | PID |



Note The `ip dhcp client vendor-class <mac-address | ascii | disable | hex>` command overrides PID with MAC Address or user defined string or disable Option 124.

The DHCP Vendor Option Support feature introduces new CLI parameters to make Option 124 and Option 125 flexible. You can modify and customize enabling vendor specific options to carry different values for different customer features. The combination of Option 124 and Option 125 enables various features.

The `ip dhcp client vendor-class` command provides flexibility to pack either Device PID or MAC Address of the DHCP client or any user configurable string in option-124. The default behavior for this command is to continue to send Device PID when you choose option 124. The default behavior can be overridden to carry MAC Address in Day 1 configuration mode by explicitly requesting option-125 from the server using the `ip dhcp client vendor-class` command.

DHCPv6 Client Options

Configuration parameters and other control information are carried in tagged data items that are stored in the options field of the DHCP message. The DHCP client provides flexibility by allowing the following options to be configured for a DHCP client:

- Option 16—This option is used by DHCP clients and servers to exchange vendor-class information.
- Option 17—This option is used by DHCP clients and servers to exchange vendor-specific information.

In DHCPv6, option-16 and option-17 is used by DHCP clients and servers to exchange vendor-specific information.

By default, Cisco IOS XE DHCP client sends the following data:

| Attribute | IPv6 DHCP Option | default value |
|---------------------|------------------|---------------|
| Vendor Class Option | 16 | PID |



Note The `ipv6 dhcp client vendor-class <mac-address | hex | ascii | disable>` command can be used to override default value of PID with MAC Address or User defined string or disable the option.

The `ipv6 dhcp client vendor-class` command provides flexibility to pack either Device PID or MAC Address of the DHCP Client or any user configurable string in option-16. The default behavior for this command is to continue to send Device PID when you choose option 16 but it can be overridden to carry MAC Address in Day 1 configuration mode using the `ipv6 dhcp client vendor-class` command.

Configure DHCP Vendor Option Using a CLI Template

For more information about using CLI templates, see [CLI Add-On Feature Templates](#).



Note By default, CLI templates execute commands in global config mode.

The section provides a sample CLI configurations to configure DHCP vendor option.

1. Configure an interface type and enter the interface configuration mode.

```
interface type number
```

2. Acquire an IP address on an interface from DHCP.

```
ip address dhcp
```

3. Configure the DHCP vendor-class option.

```
ip dhcp client vendor-class [mac-address | ascii | hex | disable]
```



Note You must first configure the `no ip dhcp-client` command before configuring the IP address.

The following example shows the configuration to override the device PID with MAC address:

```
interface GigabitEthernet 0/0/0
 ip address dhcp
 ip dhcp client vendor-class mac-address
 !
```

The DHCP vendor-class option, overrides the Device PID with MAC Address.

The following example shows the configuration to override the device PID with user defined string in hex or in ascii format:

```
interface GigabitEthernet 0/0/0
 ip address dhcp
 ip dhcp client vendor-class hex aabbcc
 !
```

```
interface GigabitEthernet 0/0/0
 ip address dhcp
 ip dhcp client vendor-class ascii cisco
!
```

The following example shows the configuration to disable option-124 in DHCP messages:

```
interface GigabitEthernet 0/0/0
 ip address dhcp
 ip dhcp client vendor-class disable
!
```

Configure DHCPv6 Client Option Using a CLI Template

For more information about using CLI templates, see [CLI Add-On Feature Templates](#).



Note By default, CLI templates execute commands in global config mode.

The section provides a sample CLI configurations to configure DHCP vendor option.

1. Configure an interface type and enter the interface configuration mode.

```
interface type number
```

2. Acquire an IPv6 address on an interface from DHCP.

```
ipv6 address dhcp
```

3. Configure the DHCP vendor-class option.

```
ipv6 dhcp client vendor-class {mac-address | ascii | hex | disable}
```

By default DHCPv6 client carries device PID of the device in option-16. This default behaviour can be overridden by configuring the **ipv6 dhcp client vendor-class** command.

The following example shows the configuration to override the device PID with MAC address:

```
interface GigabitEthernet 0/0/0
 ipv6 address dhcp
 ipv6 dhcp client vendor-class mac-address
!
```

The DHCPv6 vendor-class option, overrides the Device PID with MAC Address.

The following example shows the configuration to override the device PID with user defined string in hex or in ascii format:

```
interface GigabitEthernet 0/0/0
 ipv6 address dhcp
 ipv6 dhcp client vendor-class hex aabbcc
!
```

```
interface GigabitEthernet 0/0/0
```

```
ipv6 address dhcp
ipv6 dhcp client vendor-class ascii cisco
!
```

The following example shows the configuration to disable option-16 in DHCP messages:

```
interface GigabitEthernet 0/0/0
  ipv6 address dhcp
  ipv6 dhcp client vendor-class disable
  !
```

