



PPP over Ethernet Client

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The Point-to-Point Protocol (PPP) over Ethernet Client feature provides PPP over Ethernet (PPPoE) client support on routers.

PPPoE is a commonly used application in the deployment of digital subscriber lines (DSL). The PPP over Ethernet Client feature expands PPPoE functionality by providing support for PPPoE on the client as well as on the server.

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 for PPP over Ethernet Client” section on page 23](#).

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

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Americas Headquarters:

Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

Prerequisites for PPPoE Client

PPP connections must be established between two endpoints over a serial link or over an ATM virtual circuit (VC).

Restrictions for PPPoE Client

- For PPPoE over ATM, one permanent virtual circuit (PVC) supports multiple PPPoE clients, allowing multiple PPPoE sessions to run concurrently on the same PVC. An ATM PVC is allowed to be a member of several dialer pools as long as the dialer pool number is unique.
- For PPPoE, each PPPoE client must use a separate dialer interface and a separate dialer pool.
- For the PPPoE—Max-Payload Support on Client feature the physical interface should support a maximum transmission unit (MTU) greater than 1500.
- For the PPPoE—Max-Payload Support on Client feature, appropriate configuration is required on the Broadband Remote Access Server (BRAS). For more information, see the [“PPP-Max-Payload and IWF PPPoE Tag Support”](#) module.

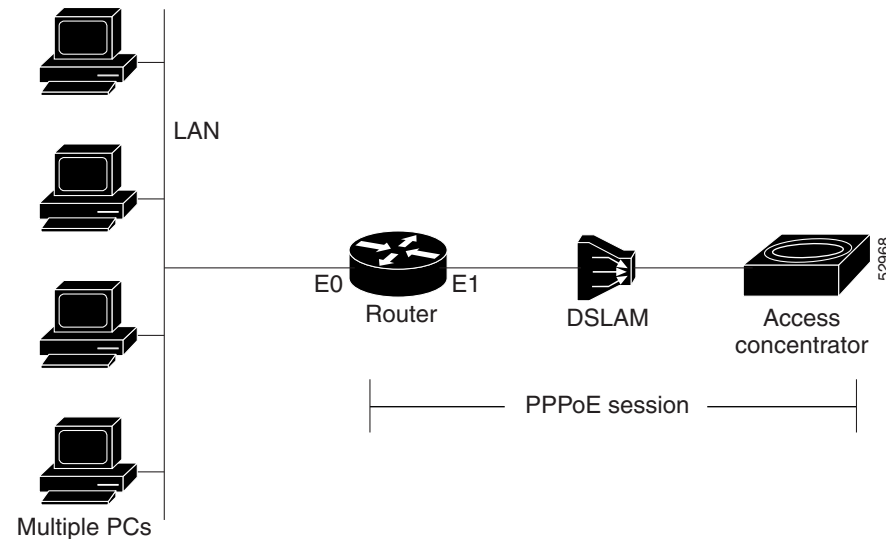
Information About PPPoE Client

- [PPPoE Client Network Topology, page 2](#)
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PPPoE Client Network Topology

The PPP over Ethernet Client feature provides PPPoE client support on routers on customer premises. Before the introduction of this feature, Cisco IOS software supported PPPoE on the access server side only. [Figure 1](#) shows the typical network topology for configuring a PPPoE client on an Ethernet interface (E1 interface).

Figure 1 Typical Network Topology for PPPoE Deployment



PPPoE Client Support on ATM PVCs and Ethernet Interfaces

The PPPoE Client feature provides PPPoE client support on ATM PVCs and Ethernet interfaces. A dialer interface must be used for cloning virtual access.

Prior to Cisco IOS Release 12.4(15)T, one ATM PVC supported one PPPoE client. With the introduction of the Multiple PPPoE Client feature in Cisco IOS Release 12.4(15)T, one ATM PVC supports multiple PPPoE clients, allowing second line connection and redundancy. Multiple PPPoE clients can run concurrently on different PVCs, but each PPPoE client must use a separate dialer interface and a separate dialer pool.

Multiple PPPoE client sessions can be configured on an Ethernet interface, but each session must use a separate dialer interface and a separate dialer pool.

PPPoE—Max-Payload Support on Client

PPPoE, as described in RFC 2516, mandates a maximum negotiated Maximum Receive Unit (MRU) of 1492. This means that a PPPoE data packet cannot accommodate more than 1492 bytes of payload. To overcome this limitation, the client can use the PPP-Max-Payload tag (defined in RFC 4638) and negotiate a higher MRU with the Broadband Remote Access Server (BRAS). Use the **pppoe-client ppp-max-payload** command to send the PPP Max-Payload tag in PPPoE control packets to negotiate a higher MRU. A PPP Max-Payload tag allows a PPPoE client to override the MRU of 1492 by providing a maximum size for the PPP payload in both the sending and receiving directions.

The PPPoE client sends the PPPoE Max-Payload tag in a PPPoE Active Discovery Initiation (PADI) packet and if the PPPoE server can support a Maximum Transmission Unit (MTU)/Maximum Receive Unit (MRU) higher than 1492 octets, it responds with an echo of the clients tag in the PPPoE Active Discovery Offer (PADO) packet. The client sends the same tag in the PPPoE Active Discovery Request (PADR), and the server echoes the client tag in a PPPoE Active Discovery Session-confirmation (PADS) packet.

The **pppoe-client ppp-max-payload** command can only be configured when the PPPoE client dialer configuration is done. When the **pppoe-client ppp-max-payload** command is configured without the dialer configuration, an error message is displayed. If the dialer configuration is removed, the PPP max-payload configuration is also removed.

PPPoE Client Session Initiation

A PPPoE session is initiated by the PPPoE client. If the session has a timeout or is disconnected, the PPPoE client will immediately attempt to reestablish the session.

The following steps describe the exchange of packets that occurs when a PPPoE client initiates a PPPoE session:

1. The client broadcasts a PADI packet.
2. When the access concentrator receives a PADI that it can serve, it replies by sending a PADO packet to the client.
3. Because the PADI was broadcast, the host may receive more than one PADO packet. The host looks through the PADO packets it receives and chooses one. The choice can be based on the access concentrator name or on the services offered. The host then sends a single PADR packet to the access concentrator that it has chosen.
4. The access concentrator responds to the PADR by sending a PADS packet. At this point a virtual access interface is created that will then negotiate PPP, and the PPPoE session will run on this virtual access.

If a client does not receive a PADO for a preceding PADI, the client sends out a PADI at predetermined intervals. That interval length is doubled for every successive PADI that does not evoke a response, until the interval reaches the configured maximum.

If PPP negotiation fails or the PPP line protocol is brought down for any reason, the PPPoE session and the virtual access will be brought down. When the PPPoE session is brought down, the client waits for a predetermined number of seconds before trying again to establish a PPPoE.

How to Configure a PPPoE Client

- [Configuring a PPPoE Client in Releases Prior to Cisco IOS Release 12.2\(13\)T, page 4](#)
- [Configuring a PPPoE Client in Cisco IOS Release 12.2\(13\)T, 12.4T, and Later Releases, page 12](#)

Configuring a PPPoE Client in Releases Prior to Cisco IOS Release 12.2(13)T

Perform the following tasks to configure a PPPoE client in releases prior to Cisco IOS release 12.2(13)T:

- [Enabling PPPoE in a VPDN Group, page 5](#) (required)
- [Configuring a PPPoE Client on an ATM PVC, page 6](#) (required)
- [Configuring a PPPoE Client on an Ethernet Interface, page 7](#) (required)
- [Configuring the Dialer Interface, page 16](#) (required)
- [Clearing PPPoE Client Sessions, page 9](#) (optional)
- [Verifying the PPPoE Client, page 10](#) (optional)
- [Troubleshooting PPPoE Client Sessions, page 11](#) (optional)

Enabling PPPoE in a VPDN Group

Perform this task to enable PPPoE in a virtual private dial-up network (VPDN) group.

Restrictions

This task applies only to releases prior to Cisco IOS Release 12.2(13)T.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **vpdn enable**
4. **vpdn-group** *name*
5. **request-dialin**
6. **protocol pppoe**
7. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	vpdn enable Example: Router(config)# vpdn enable	Enables virtual private dialup networking.
Step 4	vpdn-group <i>name</i> Example: Router(config)# vpdn-group group1	Associates a VPDN group with a customer or a VPDN profile and enters VPDN group configuration mode.
Step 5	request-dialin Example: Router(config-vpdn)# request-dialin	Creates a request-dialin VPDN subgroup and enters the VPDN request dialin configuration mode.

	Command or Action	Purpose
Step 6	<code>protocol pppoe</code> Example: Router(config-vpdn-req-in)# protocol pppoe	Enables the VPDN subgroup to establish PPPoE sessions.
Step 7	<code>end</code> Example: Router(config-vpdn-req-in)# end	Exits VPDN request dialin configuration mode and returns to privileged EXEC mode.

Configuring a PPPoE Client on an ATM PVC

Perform this task to configure a PPPoE client on an ATM PVC.

SUMMARY STEPS

1. `enable`
2. `configure terminal`
3. `interface atm number`
4. `pvc [name] vpi/vci`
5. `pppoe-client dial-pool-number number`
6. `end`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<code>configure terminal</code> Example: Router# configure terminal	Enters global configuration mode.
Step 3	<code>interface atm number</code> Example: Router(config)# interface atm 0	Configures an ATM interface.
Step 4	<code>pvc [name] vpi/vci</code> Example: Router(config-if)# pvc 1/100	Creates an ATM PVC and enters ATM virtual circuit configuration.

	Command or Action	Purpose
Step 5	<p>pppoe-client dial-pool-number <i>number</i></p> <p>Example: Router(config-if-atm-vc)# pppoe-client dial-pool-number 1</p>	Configures the PPPoE client and specifies the dialer interface to use for cloning on the PVC.
Step 6	<p>end</p> <p>Example: Router(config-if-atm-vc)# end</p>	Returns to privileged EXEC mode.

**Note**

If you make any changes to the PVC configuration after the PPPoE client session is established, the session is automatically terminated and reestablished.

Configuring a PPPoE Client on an Ethernet Interface

Perform this task to configure a PPPoE client on an Ethernet interface.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface ethernet** *number*
4. **pppoe-client dial-pool-number** *number*
5. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<p>enable</p> <p>Example: Router> enable</p>	<p>Enables privileged EXEC mode.</p> <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<p>configure terminal</p> <p>Example: Router# configure terminal</p>	Enters global configuration mode.
Step 3	<p>interface ethernet <i>number</i></p> <p>Example: Router(config)# interface ethernet 0</p>	Configures an Ethernet interface and enters interface configuration mode.

	Command or Action	Purpose
Step 4	<code>pppoe-client dial-pool-number number</code> Example: Router(config-if)# pppoe-client dial-pool-number 1	Configures the PPPoE client and specifies the dialer interface to use for cloning.
Step 5	<code>end</code> Example: Router(config-if)# end	Returns to privileged EXEC mode.

Configuring the Dialer Interface

Perform this task to configure the dialer interface to be used for cloning on the PVC.

SUMMARY STEPS

1. `enable`
2. `configure terminal`
3. `interface dialer number`
4. `mtu bytes`
5. `encapsulation ppp`
6. `ip address negotiated`
7. `dialer pool number`
8. `dialer-group group-number`
9. `end`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<code>configure terminal</code> Example: Router# configure terminal	Enters global configuration mode.
Step 3	<code>interface dialer number</code> Example: Router(config)# interface dialer 1	Configures a dialer interface.

	Command or Action	Purpose
Step 4	<p>mtu <i>bytes</i></p> <p>Example: Router(config-if)# mtu 1492</p>	<p>Adjusts the maximum packet size or maximum transmission unit (MTU) size. The range is from 64 to 17940.</p> <p>Note Cisco recommends that you set the MTU to 1492 bytes. This value accommodates a PPPoE header encapsulation of 8 bytes in the Ethernet frame payload.</p>
Step 5	<p>encapsulation ppp</p> <p>Example: Router(config-if)# encapsulation ppp</p>	<p>Sets the encapsulation type of the interface to Point-to-Point Protocol.</p>
Step 6	<p>ip address negotiated</p> <p>Example: Router(config-if)# ip address negotiated</p>	<p>Specifies that the IP address for the interface be obtained via PPP/IP Control Protocol (PPP/IPCP) address negotiation.</p>
Step 7	<p>dialer pool <i>number</i></p> <p>Example: Router(config-if)# dialer pool 1</p>	<p>Specifies the dialing pool to use to connect to a specific destination subnetwork.</p>
Step 8	<p>dialer-group <i>group-number</i></p> <p>Example: Router(config-if)# dialer-group 1</p>	<p>Configures an interface to belong to a specific dialing group.</p>
Step 9	<p>end</p> <p>Example: Router(config-if)# end</p>	<p>Exits interface configuration and returns to privileged EXEC mode.</p>

Clearing PPPoE Client Sessions

Perform this task to clear PPPoE client sessions.

Restrictions

This task applies only to releases prior to Cisco IOS Release 12.2(13)T.

SUMMARY STEPS

1. **enable**
2. **clear vpdn tunnel pppoe**

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	<code>clear vpdn tunnel pppoe</code> Example: Router# clear vpdn tunnel pppoe	Terminates the PPPoE client session and causes the PPPoE client to try to reestablish the session immediately.

**Note**

To terminate a PPPoE client session, use the **no pppoe-client dial-pool-number** command in interface configuration mode or interface-ATM-VC configuration mode.

Verifying the PPPoE Client

Perform this task to verify PPPoE client configuration.

Prerequisites

This task assumes that the PPPoE client has been configured.

SUMMARY STEPS

1. `enable`
2. `show vpdn`
3. `show vpdn session packet`
4. `show vpdn session all`
5. `show vpdn tunnel`

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> Enter your password if prompted.
Step 2	show vpdn Example: Router# show vpdn	Displays information about the active Layer 2 Forwarding (L2F) protocol tunnel and L2F message identifiers in a VPDN.
Step 3	show vpdn session packet Example: Router# show vpdn session packet	Displays PPPoE session statistics.
Step 4	show vpdn session all Example: Router# show vpdn session all	Displays PPPoE session information for each session ID.
Step 5	show vpdn tunnel Example: Router# show vpdn tunnel	Displays PPPoE session count for the tunnel.

Troubleshooting PPPoE Client Sessions

Perform this task to troubleshoot the PPPoE client.

Restrictions

This task applies only to releases prior to Cisco IOS Release 12.2(13)T.

SUMMARY STEPS

- enable
- debug vpdn pppoe-data
- debug vpdn pppoe-errors
- debug vpdn pppoe-events
- debug vpdn pppoe-packets

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: <code>Router> enable</code>	Enables privileged EXEC mode. <ul style="list-style-type: none"> Enter your password if prompted.
Step 2	<code>debug vpdn pppoe-data</code> Example: <code>Router# debug vpdn pppoe-data</code>	Displays PPPoE session data packets.
Step 3	<code>debug vpdn pppoe-errors</code> Example: <code>Router# debug vpdn pppoe-errors</code>	Displays PPPoE protocol errors that prevent a session from being established or errors that cause an established session to be terminated.
Step 4	<code>debug vpdn pppoe-events</code> Example: <code>Router# debug vpdn pppoe-events</code>	Displays PPPoE protocol messages about events that are part of normal session establishment or shutdown.
Step 5	<code>debug vpdn pppoe-packets</code> Example: <code>Router# debug vpdn pppoe-packets</code>	Displays each PPPoE protocol packet exchanged.

Configuring a PPPoE Client in Cisco IOS Release 12.2(13)T, 12.4T, and Later Releases

- [Configuring a PPPoE Client on an ATM PVC, page 12](#) (required)
- [Configuring a PPPoE Client on an Ethernet Interface, page 14](#) (required)
- [Configuring a PPPoE Client on an Ethernet Subinterface, page 14](#) (required)
- [Configuring the Dialer Interface, page 16](#) (required)
- [Clearing PPPoE Client Sessions, page 17](#) (optional)
- [Verifying the PPPoE Client, page 18](#) (optional)
- [Troubleshooting PPPoE Client Sessions, page 18](#) (optional)

Configuring a PPPoE Client on an ATM PVC

Perform this task to configure a PPPoE client on an ATM PVC.

SUMMARY STEPS

1. `enable`
2. `configure terminal`

3. **interface atm** *number*
4. **pvc** [*name*] *vpi/vci*
5. **pppoe-client dial-pool-number** *number*
6. **pppoe-client ppp-max-payload** *max-value*
7. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	interface atm <i>number</i> Example: Router(config)# interface atm 0	Configures an ATM interface.
Step 4	pvc [<i>name</i>] <i>vpi/vci</i> Example: Router(config-if)# pvc 1/100	Creates an ATM PVC and enters ATM virtual circuit configuration.
Step 5	pppoe-client dial-pool-number <i>number</i> Example: Router(config-if-atm-vc)# pppoe-client dial-pool-number 1	Configures the PPPoE client and specifies the dialer interface to use for cloning on the PVC. Note If Cisco IOS Release 12.4(15)T or a later release is running, you can configure multiple PPPoE clients on the same PVC. For earlier releases, one PVC supports only one PPPoE client.
Step 6	pppoe-client ppp-max-payload <i>max-value</i> Example: Router(config-if-atm-vc)# pppoe-client ppp-max-payload 1500	Configures the PPPoE client to send a PPP Max-Payload tag in PPPoE control packets.
Step 7	end Example: Router(config-if-atm-vc)# end	Exits ATM virtual circuit configuration mode and returns to privileged EXEC mode.



Note

If you make any changes to the PVC configuration after the PPPoE client session is established, the session is automatically terminated and reestablished.

Configuring a PPPoE Client on an Ethernet Interface

Perform this task to configure a PPPoE client on an Ethernet interface.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface ethernet** *number*
4. **pppoe-client dial-pool-number** *number*
5. **pppoe-client ppp-max-payload** *max-value*
6. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	interface ethernet <i>number</i> Example: Router(config)# interface ethernet 0	Configures an Ethernet interface.
Step 4	pppoe-client dial-pool-number <i>number</i> Example: Router(config-if)# pppoe-client dial-pool-number 1	Configures the PPPoE client and specifies the dialer interface to use for cloning. You can configure multiple PPPoE clients on the same PVC.
Step 5	pppoe-client ppp-max-payload <i>max-value</i> Example: Router(config-if)# pppoe-client ppp-max-payload 1500	Configures the PPPoE client to send a PPP Max-Payload tag in PPPoE control packets.
Step 6	end Example: Router(config-if)# end	Exits interface configuration mode and returns to privileged EXEC mode.

Configuring a PPPoE Client on an Ethernet Subinterface

Perform this task to configure a PPPoE client on an Ethernet subinterface.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface ethernet** *number*
4. **encap dot1Q** *vlan-id* [**native**]
5. **pppoe-client dial-pool-number** *number*
6. **pppoe-client ppp-max-payload** *max-value*
7. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	interface ethernet <i>number</i> Example: Router(config)# interface ethernet 0/0.10	Configures an Ethernet subinterface, and enters Ethernet subinterface mode.
Step 4	encap dot1Q <i>vlan-id</i> [native] Example: Router(config-subif)# encap dot1Q 10	Enables IEEE 802.1Q encapsulation of traffic on a specified subinterface.
Step 5	pppoe-client dial-pool-number <i>number</i> Example: Router(config-subif)# pppoe-client dial-pool-number 1	Configures the PPPoE client and specifies the dialer interface to use for cloning.
Step 6	pppoe-client ppp-max-payload <i>max-value</i> Example: Router(config-subif)# pppoe-client ppp-max-payload 1500	Configures the PPPoE client to send a PPP Max-Payload tag in PPPoE control packets.
Step 7	end Example: Router(config-subif)# end	Exits subinterface configuration mode and returns to privileged EXEC mode.

Configuring the Dialer Interface

Perform this task to configure the dialer interface to be used for cloning on the PVC.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface dialer** *number*
4. **mtu** *bytes*
5. **encapsulation ppp**
6. **ip address negotiated**
7. **dialer pool** *number*
8. **dialer-group** *group-number*
9. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	interface dialer <i>number</i> Example: Router(config)# interface dialer 1	Configures a dialer interface.
Step 4	mtu <i>bytes</i> Example: Router(config-if)# mtu 1492	Adjusts the maximum packet size or MTU size. Note Cisco recommends that you set the MTU to 1492 bytes. This value accommodates a PPPoE header encapsulation of 8 bytes in the Ethernet frame payload.
Step 5	encapsulation ppp Example: Router(config-if)# encapsulation ppp	Sets the encapsulation type of the interface to the Point-to-Point protocol.
Step 6	ip address negotiated Example: Router(config-if)# ip address negotiated	Specifies that the IP address for the interface is obtained via PPP/IPCP address negotiation.

	Command or Action	Purpose
Step 7	<code>dialer pool number</code> Example: Router(config-if)# dialer pool 1	Specifies the dialing pool to use to connect to a specific destination subnetwork.
Step 8	<code>dialer-group group-number</code> Example: Router(config-if)# dialer-group 1	Configures an interface to belong to a specific dialing group.
Step 9	<code>end</code> Example: Router(config-if)# end	Returns to privileged EXEC mode.

Clearing PPPoE Client Sessions

Perform this task to clear PPPoE client sessions.

Restrictions

This task applies only to Cisco IOS Release 12.2(13)T and later releases.

SUMMARY STEPS

1. `enable`
2. `clear pppoe {interface type number [vc {[vpi/]vci | vc-name}] | rmac mac-address | all}`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	<code>clear pppoe {interface type number [vc {[vpi/]vci vc-name}] rmac mac-address all}</code> Example: Router# clear pppoe all	Clears the PPPoE client session and causes the PPPoE client to try immediately to reestablish the session.



Note

To permanently terminate a PPPoE client session, use the **no pppoe-client dial-pool-number** command in interface configuration mode or interface-ATM-VC configuration mode.

Verifying the PPPoE Client

Perform this task to verify PPPoE client configuration.

Restrictions

This task applies only to Cisco IOS Release 12.2(13)T and later releases.

SUMMARY STEPS

1. **enable**
2. **show pppoe session [all | packets]**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	show pppoe session [all packets] Example: Router# show pppoe session	Displays information about currently active PPPoE sessions.

Troubleshooting PPPoE Client Sessions

Perform this task to troubleshoot the PPPoE client.

Restrictions

This task applies only to Cisco IOS Release 12.2(13)T and later releases.

SUMMARY STEPS

1. **enable**
2. **debug pppoe {data | errors | events | packets}**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	debug pppoe {data errors events packets} Example: Router# debug pppoe errors	Displays debugging information for PPPoE sessions.

Configuration Examples for PPPoE Client

- [Examples: PPPoE Client in Releases Prior to Cisco IOS Release 12.2\(13\)T, page 19](#)
- [Examples: PPPoE Client in Cisco IOS Release 12.2\(13\)T and Later Releases, page 20](#)

Examples: PPPoE Client in Releases Prior to Cisco IOS Release 12.2(13)T

In the following example, a PPPoE client is configured on a PVC on the ATM interface 0. The PPPoE client uses the dialer interface 1 as its virtual access interface.

```

vpdn enable
vpdn-group 1
  request-dialin
  protocol pppoe
!
interface atm0
  pvc 1/100
    pppoe-client dial-pool-number 1
!
interface dialer 1
  ip address negotiated
  dialer pool 1
  dialer-group 1
!

```

In the following example, two PPPoE client sessions are configured on an Ethernet interface. Each PPPoE client uses a separate dialer interface and a separate dialer pool.

```

vpdn enable
vpdn-group 1
  request-dialin
  protocol pppoe
!
interface ethernet1/1
  pppoe-client dial-pool-number 1
  pppoe-client dial-pool-number 2
!
interface dialer 1
  ip address negotiated
  dialer pool 1
  dialer-group 1
!
interface dialer 2

```

```
ip address negotiated
dialer pool 2
dialer-group 2
```

Examples: PPPoE Client in Cisco IOS Release 12.2(13)T and Later Releases

The following example shows how to configure a PPPoE client on an Ethernet interface. Note that in Releases 12.2(13)T and later it is not necessary to configure a global VPDN group before configuring the PPPoE client.

```
interface Ethernet 0
pppoe-client dial-pool-number 1
pppoe-client ppp-max-payload 1500

interface Dialer 1
ip address negotiated
dialer pool 1
mtu 1492
```

The following example shows how to configure multiple PPPoE clients on an ATM VC. Note that in Releases 12.4(15)T or a later release, more than one PPPoE session is supported on a single PVC.

```
interface ATM0
no ip address
no ip mroute-cache
no atm ilmi-keepalive
pvc 4/20
pppoe-client dial-pool-number 1
pppoe-client dial-pool-number 2
pppoe-client ppp-max-payload 1500
!
end
```

Additional References

Related Documents

Related Topic	Document Title
Cisco IOS commands	<i>Cisco IOS Master Commands List, All Releases</i>
Broadband and DSL commands	<i>Cisco IOS Broadband and DSL Command Reference</i>
VPDN features	<i>Cisco IOS VPDN Configuration Guide</i>
VPDN and PPPoE commands	<i>Cisco IOS Broadband Access Aggregation and DSL Command Reference</i>
PPP over Frame Relay	<i>Cisco IOS Wide-Area Networking Configuration Guide</i>

Standards

Standard	Title
No new or modified standards are supported by this feature.	—

MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature.	To locate and download MIBs for selected platforms, Cisco software releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
RFC 2516	<i>A Method for Transmitting PPP over Ethernet (PPPoE)</i>
RFC 4638	<i>Accommodating a Maximum Transit Unit/Maximum Receive Unit (MTU/MRU) Greater Than 1492 in the Point-to-Point Protocol over Ethernet (PPPoE)</i>

Technical Assistance

Description	Link
<p>The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.</p>	<p>http://www.cisco.com/cisco/web/support/index.html</p>

Feature Information for PPP over Ethernet Client

Table 1 lists the features in this module and provides links to specific configuration information.

Use Cisco Feature Navigator to find information about 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 <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.



Note

Table 1 lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Table 1 Feature Information for PPP over Ethernet Client

Feature Name	Releases	Feature Information
PPPoE—Max-Payload Support on Client	15.1(4)M	<p>This feature supports the PPPoE client to send a PPP Max-Payload tag in PPPoE control packets. This feature is based on RFC 4638.</p> <p>The following section provide information about this feature:</p> <ul style="list-style-type: none"> • PPPoE—Max-Payload Support on Client, page 3 <p>The following command was introduced or modified: pppoe-client ppp-max-payload.</p>
PPP over Ethernet Client	12.2(2)T 12.2(13)T 12.4(15)T 15.0(1)M	<p>This feature was introduced.</p> <p>In Cisco IOS Release 12.2(13)T, PPPoE client functionality was separated from VPDN functionality, resulting in changes to PPPoE client configuration.</p> <p>In the Cisco IOS Release 12.4(15)T, support was added for multiple PPPoE sessions per VC.</p> <p>No new commands were introduced or modified.</p>
PPP over Ethernet Subinterface	12.4(20)T	Support was added for PPPoE clients on Ethernet subinterfaces.

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