



PPPoE Session Recovery After Reload

If the PPP keepalive mechanism is disabled on a customer premises equipment (CPE) device, a PPP over Ethernet (PPPoE) session will hang indefinitely after an aggregation device reload. The PPPoE Session Recovery After Reload feature enables the aggregation device to attempt to recover PPPoE sessions that failed because of reload by notifying CPE devices about the PPPoE session failures.

Feature Specifications for the PPPoE Session Recovery After Reload Feature

Release	Modification
12.3(2)T	This feature was introduced.
12.2(27)SBA	This feature was integrated into Cisco IOS Release 12.2(27)SBA.

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at <http://www.cisco.com/go/fn>. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

Contents

- [Information About PPPoE Session Recovery After Reload, page 2](#)
- [How to Configure PPPoE Session Recovery After Reload, page 2](#)
- [Configuration Examples for PPPoE Session Recovery After Reload, page 4](#)
- [Additional References, page 4](#)
- [Command Reference, page 6](#)



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

Copyright © 2003–2005 Cisco Systems, Inc. All rights reserved.

Information About PPPoE Session Recovery After Reload

To configure PPPoE session recovery after reload, you should understand the following concepts:

- [PPPoE Session Recovery After Reload, page 2](#)
- [Benefits of PPPoE Session Recovery After Reload, page 2](#)

PPPoE Session Recovery After Reload

The PPPoE protocol relies on the PPP keepalive mechanism to detect link or peer device failures. If PPP detects a failure, it terminates the PPPoE session. If the PPP keepalive mechanism is disabled on a CPE device, the CPE device has no way to detect link or peer device failures over PPPoE connections. When an aggregation router that serves as the PPPoE session endpoint reloads, the CPE device will not detect the connection failure and will continue to send traffic to the aggregation device. The aggregation device will drop the traffic for the failed PPPoE session.

The **sessions auto cleanup** command enables an aggregation device to attempt to recover PPPoE sessions that existed before a reload. When the aggregation device detects a PPPoE packet for a “half-active” PPPoE session (a PPPoE session that is active on the CPE end only), the device notifies the CPE of the PPPoE session failure by sending a PPPoE PADT packet. The CPE device is expected to respond to the PADT packet by taking failure recovery action.

Benefits of PPPoE Session Recovery After Reload

If the PPP keepalive mechanism is disabled on a customer premises equipment (CPE) device, a PPP over Ethernet (PPPoE) session will hang indefinitely after an aggregation device reload. The PPPoE Session Recovery After Reload feature enables the aggregation device to attempt to recover PPPoE sessions that failed because of reload by sending a PPPoE active discovery terminate (PADT) packet to the CPE. The CPE device is expected to take failure recovery action upon receipt of this packet.

How to Configure PPPoE Session Recovery After Reload

To configure PPPoE session recovery after a reload, perform the following task:

- [Configuring PPPoE Session Recovery After Reload, page 2](#)

Configuring PPPoE Session Recovery After Reload

Perform the following task to configure the aggregation device to send PADT packets to the CPE device upon receipt of PPPoE packets on half-active PPPoE sessions.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **bba-group pppoe** *{group-name | global}*
4. **virtual-template** *template-number*

5. **sessions auto cleanup**
6. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	bba-group pppoe {group-name global} Example: Router(config)# bba-group pppoe global	Defines a PPPoE profile and enters BBA group configuration mode. The global keyword creates a profile that will serve as the default profile for any PPPoE port that is not assigned a specific profile.
Step 4	virtual-template template-number Example: Router(config-bba-group)# virtual-template 1	Specifies which virtual template will be used to clone virtual access interfaces for all PPPoE ports that use this PPPoE profile.
Step 5	sessions auto cleanup Example: Router(config-bba-group)# sessions auto cleanup	Configures an aggregation device to attempt to recover PPPoE sessions that failed because of reload by notifying CPE devices about the PPPoE session failures.
Step 6	end Example: Router(config-bba-group)# end	(Optional) Exits the configuration mode and returns to privileged EXEC mode.

Troubleshooting Tips

Use the **show pppoe session** and **debug pppoe** commands to troubleshoot PPPoE sessions.

What to Do Next

Once a PPPoE profile has been defined, it can be assigned to a PPPoE port (Ethernet interface, VLAN, or PVC), a virtual circuit (VC) class, or an ATM permanent virtual circuit (PVC) range. For more information about how to configure PPPoE profiles, refer to the Cisco IOS Release 12.2(15)T new feature documentation *PPPoE Profiles*.

Configuration Examples for PPPoE Session Recovery After Reload

- [PPPoE Session Recovery After Reload: Example, page 4](#)

PPPoE Session Recovery After Reload: Example

In the following example, the router will attempt to recover failed PPPoE sessions on PVCs in the ATM PVC range called “range-pppoe-1”.

```
bba-group pppoe group1
 virtual-template 1
 sessions auto cleanup
!
interface ATM1/0.10 multipoint
 range range-pppoe-1 pvc 100 109
 protocol pppoe group group1
!
interface virtual-template1
 ip address negotiated
 no peer default ip address
 ppp authentication chap
```

Additional References

For additional information related to PPPoE session recovery after reload, consult the references in the sections that follow.

Related Documents

Related Topic	Document Title
PPPoE profile configuration tasks and commands	<i>PPPoE Profiles</i> , Cisco IOS Release 12.2(15)T feature module
PPPoE configuration tasks	<i>Cisco IOS Wide-Area Networking Configuration Guide</i>
PPPoE commands	<i>Cisco IOS Wide-Area Networking Command Reference</i> , Release 12.3 T

Standards

Standards	Title
None	—

MIBs

MIBs	MIBs Link
No new or modified MIBs are supported by this feature. Support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFCs	Title
No new or modified RFCs are supported by this feature. Support for existing RFCs has not been modified by this feature.	—

Technical Assistance

Description	Link
Technical Assistance Center (TAC) home page, containing 30,000 pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/public/support/tac/home.shtml

Command Reference

This section documents the new command

- [sessions auto cleanup](#)

sessions auto cleanup

To configure an aggregation device to attempt to recover PPP over Ethernet (PPPoE) sessions that failed after reload by notifying customer premises equipment (CPE) devices about the PPPoE session failures, use the **sessions auto cleanup** command in BBA group configuration mode. To disable PPPoE session recovery after reload, use the **no** form of this command.

sessions auto cleanup

no sessions auto cleanup

Syntax Description This command has no arguments or keywords.

Defaults PPPoE session recovery after reload is not enabled.

Command Modes BBA group configuration

Command History	Release	Modification
	12.3(2)T	This command was introduced.
	12.2(27)SBA	This command was integrated into Cisco IOS Release 12.2(27)SBA.

Usage Guidelines If the PPP keepalive mechanism is disabled on a CPE device, the CPE device has no way to detect link or peer device failures over PPPoE connections. When an aggregation device that serves as the PPPoE session endpoint reloads, the CPE will assume that the link is up and will continue to send traffic to the aggregation device. The aggregation device will drop the traffic for the failed PPPoE session.

The **sessions auto cleanup** command enables an aggregation device to attempt to recover PPPoE sessions that existed before a reload. When the aggregation device detects a PPPoE packet for a “half-active” PPPoE session (a PPPoE session that is active on the CPE end only), the device notifies the CPE of the PPPoE session failure by sending a PPPoE active discovery terminate (PADT) packet. The CPE device is expected to respond to the PADT packet by taking failure recovery action.

The **sessions auto cleanup** command must be configured in a PPPoE profile. This command enables PPPoE session recovery after reload on all ingress ports that use the PPPoE profile.

Examples In the following example, PPPoE session recovery after reload is configured in PPPoE profile “group1”.

```
bba-group pppoe group1
 virtual-template 1
  sessions auto cleanup
```

Related Commands	Command	Description
	bba-group pppoe	Creates a PPPoE profile.

CCVP, the Cisco logo, and Welcome to the Human Network are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn is a service mark of Cisco Systems, Inc.; and Access Registrar, Aironet, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, iQuick Study, LightStream, Linksys, MeetingPlace, MGX, Networkers, Networking Academy, Network Registrar, PLX, ProConnect, ScriptShare, SMARTnet, StackWise, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0711R)

Copyright © 2005 Cisco Systems, Inc. All rights reserved.