



Customer Profile Idle Timer Enhancements for Interesting Traffic

Feature History

Release	Modification
12.2(4)T	This feature was introduced.
12.2(11)T	This feature was implemented on Cisco access server platforms.

This document describes the Asynchronous Line Monitoring feature feature. It includes the following sections:

- [Feature Overview, page 1](#)
- [Supported Platforms, page 2](#)
- [Supported Standards, MIBs, and RFCs, page 3](#)
- [Configuration Tasks, page 3](#)
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Feature Overview

Before Cisco IOS Release 12.2(4)T, only the dialer idle timer could be reset for *interesting* traffic on a dialer interface. The Asynchronous Line Monitoring feature feature available in Cisco IOS Release 12.2(4)T supports a PPP idle timer based on interesting traffic for dialer interfaces. (Existing PPP idle timer behavior is not changed when traffic is not classified.) New commands and functionality provided with this feature also address idle timer issues for virtual access dialup network (VPDN) sessions, which use virtual access (projected) interfaces and rely on the PPP idle timer mechanism.



The Resource Pool Manager (RPM) per-customer profile dialer idle timer function works with Multilink PPP (MLP) and Multichassis Multilink PPP (MMP), providing that the master bundle interface is not a virtual access (projected) interface. For virtual access interfaces such as those used in a VPDN or with MMP where the dialer idle timer cannot be used, you can now classify the IP traffic that resets the PPP idle timer. A named access list is also supported.

Additionally, because RPM customer profiles are applied on a per-Dialed Number Identification Service (DNIS) basis and allow for configuring a per-customer profile dialer idle timer, the Asynchronous Line Monitoring feature feature associates idle timers based on call type and DNIS.

The idle timer implementation in the Asynchronous Line Monitoring feature feature specifies that for calls terminated on a network access server, a virtual access interface is cloned from the virtual template. This virtual access interface is linked to a physical interface on which is running a dialer timer. If the PPP idle timer is configured on the virtual template or provided by an authentication, authorization, and accounting (AAA) per-user interface configuration, the result is two idle timers, as follows:

- A PPP idle timer on the virtual access interface.
- A dialer idle timer on the physical interface.

Neither the dialer idle timer nor the PPP idle timer will run when the idle timer in the per-user configuration is set to 0. When the per-user idle timer is set to some value besides 0, that value overrides all local idle timer configurations.

Benefits

The Asynchronous Line Monitoring feature feature provides the following system idle timer benefits:

- Resets the PPP idle timer based on interesting inbound or outbound IP traffic for virtual access interfaces on Layer 2 Tunnel Protocol (L2TP) access concentrators (LACs) and L2TP network servers (LNSs).
- Associates the dialer timer with interesting traffic within RPM customer profiles.
- Applies the user idle-timer value RADIUS attribute 28 across all interfaces associated with the call.

Restrictions

The PPP idle timer can classify IP traffic only.

Supported Platforms

See the next section for information about Feature Navigator and how to use this tool to determine the platforms and software images in which this feature is available.

Platform Support Through Feature Navigator

Cisco IOS software is packaged in feature sets that support specific platforms. To get updated information regarding platform support for this feature, access Feature Navigator. Feature Navigator dynamically updates the list of supported platforms as new platform support is added for the feature.

Feature Navigator is a web-based tool that enables you to quickly determine which Cisco IOS software images support a specific set of features and which features are supported in a specific Cisco IOS image.

To access Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions at <http://www.cisco.com/register>.

Feature Navigator is updated when major Cisco IOS software releases and technology releases occur. As of May 2001, Feature Navigator supports M, T, E, S, and ST releases. You can access Feature Navigator at the following URL:

<http://www.cisco.com/go/fn>

Supported Standards, MIBs, and RFCs

Standards

None

MIBs

None

To obtain lists of supported MIBs by platform and Cisco IOS release, and to download MIB modules, go to the Cisco MIB website on Cisco.com at the following URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

RFCs

None

Configuration Tasks

See the following sections for configuration tasks for the Asynchronous Line Monitoring feature feature. Each task in the list is identified as either required or optional:

- [Configuring an RPM Template to Accept Dialer Interface Timers](#) (required)
- [Configuring a PPP Idle Timer Based on Interesting IP Traffic](#) (required)
- [Configuring the Idle Timer in a RADIUS Profile](#) (optional)
- [Verifying the Asynchronous Line Monitoring feature](#) (optional)

Configuring an RPM Template to Accept Dialer Interface Timers

To configure a template to accept dialer interface timers, use the following commands beginning in global configuration mode:

	Command	Purpose
Step 1	Router(config)# template <i>name</i>	Accesses the template configuration mode for configuring a particular customer profile template.
Step 2	Router(config-template)# dialer idle-timeout <i>seconds</i>	Sets the dialer idle timeout period in a virtual template interface.
Step 3	Router(config-template)# dialer-group <i>dialer-list-number</i>	Controls access by configuring an interface to belong to a specific dialing group.

Configuring a PPP Idle Timer Based on Interesting IP Traffic

To configure a PPP idle timer based on *interesting* IP traffic, use the following commands beginning in global configuration mode:

	Command	Purpose
Step 1	Router(config)# interface virtual-template <i>number</i>	Creates a virtual template interface that can be configured and applied dynamically in creating virtual access interfaces, and enters interface configuration mode.
Step 2	Router(config-if)# ppp timeout idle <i>time</i>	Sets PPP idle timeout parameters on the virtual template interface.
Step 3	Router(config-if)# ip idle-group { <i>access-list-number</i> <i>access-list-name</i> } { in out }	Configures interesting inbound traffic (using the in keyword) or outbound traffic (using the out keyword) on a virtual template interface for the PPP idle timer.

See the configurations included in the “[Configuration Examples](#)” section for additional commands that you might configure.

Configuring the Idle Timer in a RADIUS Profile

To set the idle timer from AAA, configure the following RADIUS profile:

```
aaa-idle Password = "password"
  Service-Type = Framed,
  Framed-Protocol = PPP,
  Idle-timeout = 60
```

Verifying the Asynchronous Line Monitoring feature

To verify that the Asynchronous Line Monitoring feature is configured correctly, perform the following verification steps:

-
- Step 1** To display the idle time configured, and any remote caller that is connected and its IP address, enter the **show caller timeout EXEC** command:

```
Router# show caller timeout
```

Line	User	Host(s)	Idle	Location
* 0 con 0		idle	00:00:00	
47 tty 47	st-5300-c3	Async interface	00:00:15	PPP: 11.1.1.2

Interface	User	Mode	Idle	Peer Address

Step 2 Enter the **show caller timeout EXEC** command again. Notice that the **show caller timeout** command displays the idle timeout configured as 20 seconds:

```
Router# show caller timeout
```

Line	User	Session Timeout	Idle Timeout	Disconnect User in
con 0	-	-	-	-
tty 47	st-5300-c3	-	00:30:00	00:29:43
As47	st-5300-c3	-	00:00:20	now

Step 3 Continue entering the **show caller timeout** command. The displays show the timers counting down and then disconnecting.

```
Router# show caller timeout
```

Line	User	Session Timeout	Idle Timeout	Disconnect User in
con 0	-	-	-	-
tty 47	st-5300-c3	-	00:30:00	00:29:43
As47	st-5300-c3	-	00:00:20	now

```
Router#
```

```
Router# show caller timeout
```

Line	User	Session Timeout	Idle Timeout	Disconnect User in
con 0	-	-	-	-
tty 47	-	-	00:30:00	00:29:41

```
Router# show caller timeout
```

Line	User	Session Timeout	Idle Timeout	Disconnect User in
con 0	-	-	-	-
tty 47	-	-	00:30:00	00:29:38

```
Router# show caller timeout
```

Line	User	Session Timeout	Idle Timeout	Disconnect User in
con 0	-	-	-	-

Troubleshooting Tips

To troubleshoot the Asynchronous Line Monitoring feature, use the following debugging commands:

- **debug cca**
- **debug aaa authen**
- **debug aaa author**
- **debug aaa per-user**

- `debug ppp authen`
- `debug ppp neg`
- `debug radius`
- `debug isdn q931`
- `debug dialer detail`
- `debug vaccess`
- `debug vprofile`

Monitoring and Maintaining the Asynchronous Line Monitoring feature

To monitor and maintain the Asynchronous Line Monitoring feature feature, use the following EXEC commands:

Command	Purpose
Router# <code>show caller</code>	Displays caller information.
Router# <code>show ip access-list</code>	Displays the contents of all current IP access lists.
Router# <code>show users</code>	Displays information about the active lines on the router.

Configuration Examples

This section provides the following configuration examples:

- [Two Templates with Different Dialer Idle Timer Settings Example](#)
- [Resetting the Dialer Idle Timer with Interesting Traffic Example](#)
- [Network Access Server Extended Configuration Example](#)

Two Templates with Different Dialer Idle Timer Settings Example

The following partial example shows how to configure two customer profiles, each with different templates. Notice that each template sets the dialer idle timer differently:

```
resource-pool enable
!
resource-pool profile customer prf_cust_1
  limit base-size all
  limit overflow-size 0
  dn timer group dn_timer_g1
  source template template1
!
resource-pool profile customer prf_cust_2
  limit base-size all
  limit overflow-size 0
  dn timer group dn_timer_g2
  source template template2
!
```

```

template templatel
  dialer idle-timeout 45
  dialer-group 1
!
template template2
  dialer idle-timeout 90
  dialer-group 2
!
dialer dnis group dnis_g1
  number 11111111
!
dialer dnis group dnis_g2
  number 22222222

```

Resetting the Dialer Idle Timer with Interesting Traffic Example

The following partial example shows how to configure an RPM customer profile that sets the dialer idle timer in a virtual template interface based on either inbound or outbound traffic:

```

resource-pool enable
!
resource-pool profile customer prf_cust_1
  limit base-size all
  limit overflow-size 0
  dnis group dnis_g1
  source template templatel
!
template templatel
  dialer idle-timeout 45 either
  dialer-group 1
!
dialer dnis group dnis_g1
  number 1231231234

```

Network Access Server Extended Configuration Example

The following example shows the configuration for a Cisco AS5300 series access server, which is part of a large-scale dial-out configuration. Notice that on virtual template interface 1 the PPP idle timer is configured to reset only on interesting inbound traffic, and that both dialer interface idle timers are set to 60 seconds:

```

hostname 5300
!
aaa new-model
aaa authentication ppp default local group radius none
aaa authorization network default local group radius none
!
username 4500 password 0 cisco
username 5300 password 0 cisco
username 2500-1 password 0 cisco
username 2500-2 password 0 cisco
username LAC password 0 cisco
username LNS password 0 cisco
username SGBP password 0 cisco
spe 1/0 2/9
  firmware location system:/ucode/mica_port_firmware
!
resource-pool enable
!

```

```

resource-pool group resource modem
  range port 1/0 1/48
!
resource-pool group resource data
  range limit 20
!
resource-pool profile customer cust
  limit base-size all
  limit overflow-size 0
  resource modem speech
  resource data digital
  dnis group dnis_g7
  source template1
!
dialer dnis group dnis_g7
  number 11111112

ip subnet-zero
!
sgbp group MMP
sgbp member 2500-2 10.0.38.3
sgbp ppp-forward
!
vpdn enable
no vpdn logging
!
isdn switch-type primary-5ess
!
template template1
  dialer idle-timeout 27
  dialer-group 1
!
controller T1 0
  framing esf
  clock source line primary
  linecode b8zs
  pri-group timeslots 1-24
!
interface Loopback1
  ip address 192.168.14.1 255.255.255.255
  no ip route-cache
  no ip mroute-cache
!
interface Ethernet0
  ip address 10.0.38.14 255.255.255.0
  no ip route-cache
  no ip mroute-cache
!
interface Virtual-Template1
  ip unnumbered Loopback1
  peer default ip address pool local_pool
  ppp authentication chap callin
  ppp chap hostname name
  ppp timeout idle 60
  ip idle-group 101 in
  ip idle-group 102 in
  ppp multilink
!
interface Serial0:23
  ip unnumbered Loopback1
  encapsulation ppp
  ip mroute-cache
  load-interval 30
  dialer load-threshold 1 outbound

```



```
dialer-group 2
 isdn switch-type primary-5ess
 isdn incoming-voice modem
 ppp authentication chap callin
 ppp multilink
 !
interface Async1
 ip unnumbered Loopback1
 encapsulation ppp
 dialer in-band
 dialer rotary-group 1
 dialer-group 1
 async mode dedicated
 !
interface Dialer1
 ip unnumbered Loopback1
 encapsulation ppp
 dialer in-band
 dialer idle-timeout 60
 dialer-group 1
 peer default ip address pool local_pool
 ppp authentication chap callin
 ppp chap hostname name
 !
ip local pool local_pool 10.1.14.1 10.1.14.254
ip classless
ip route 172.0.0.0 255.0.0.0 Ethernet0
ip route 192.168.0.0 255.255.255.0 10.0.38.1
no ip http server
 !
access-list 101 deny icmp any any
access-list 101 permit ip any any
 !
access-list 102 deny tcp any any
access-list 102 permit ip any any
 !
dialer-list 1 protocol ip list 101
dialer-list 2 protocol ip list 102
dialer-list 3 protocol ip permit
 !
access-list 101 permit icmp any any
access-list 102 deny ip any any

radius-server host 172.69.70.72 auth-port 1645 acct-port 1646
radius-server retransmit 3
radius-server key cisco
 !
line con 0
 exec-timeout 0 0
 transport input none
line 1 2
 no exec
 exec-timeout 0 0
 autoselect ppp
 script dialer dial
 script reset reset
 modem InOut
 modem autoconfigure discovery
 transport input all
line 2 240
 no exec
 exec-timeout 0 0
 transport input all
line aux 0
```

```
line vty 0 4
!  
end
```

Command Reference

The following commands are introduced or modified in the feature or features documented in this module. For information about these commands, see the *Cisco IOS Dial Technologies Command Reference* at http://www.cisco.com/en/US/docs/ios/dial/command/reference/dia_book.html. For information about all Cisco IOS commands, go to the Command Lookup Tool at <http://tools.cisco.com/Support/CLILookup> or to the *Cisco IOS Master Commands List*.

New Commands

- **ip idle-group**
- **dialer-group (template)**
- **dialer idle-timeout (template)**
- **ppp timeout idle (template)**

Modified Command

- **dialer-list protocol**

Glossary

interesting packets—Dialer access lists are central to the operation of DDR. In general, access lists are used as the screening criteria for determining when to initiate DDR calls.

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