



Configuring an IP Local Pools Holdback Timer

The IP Local Pools Holdback Timer feature allows you to configure a delay in the recycle of free IP addresses from the local pool. You can configure a unique IP address list for each pool.

With Cisco IOS Release 12.4(15)T and later releases, you can use the **ip local pool** command in global configuration mode to configure the list of IP addresses to delay before recycling and set the recycle delay time.

Feature History for IP Local Pools Holdback Timer

Release	Modification
12.4(15)T	This feature was introduced.

Contents

- [Prerequisites for the IP Local Pools Holdback Timer, page 1](#)
- [Information About the IP Local Pools Holdback Timer, page 1](#)
- [How to Configure the IP Local Pools Holdback Timer, page 2](#)
- [Additional References, page 3](#)
- [Command Reference, page 4](#)

Prerequisites for the IP Local Pools Holdback Timer

- Establish a working Point-to-Point Protocol over Ethernet (PPPoE) 802.IQ network
- Establish IP local pools

Information About the IP Local Pools Holdback Timer

The IP Local Pools Holdback Timer feature allows you to configure a recycle delay for each free IP address before it returns to a local pool for reassignment to a different user. You can configure a holdback timers with unique values, one for each pool, and track each pool separately.



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The IP Local Pools Holdback Timer feature adds a time-stamp field to the pool element data structure that delays the reuse of the released IP address. The time-stamp field sets whenever the state of the pool element returns to POOL_ELEMENT_FREE, and the element returns to the Free Queue.

When there is a request for a specific IP address that is available for assignment, then the current time is compared against the time stamp configured for that IP address. If the time stamp equals or exceeds the configured recycle delay, the IP address is freed for assignment.

If the compared time difference is lower than the configured recycle delay, and if no other free IP addresses are available, the address allocation request is denied.

If there are free IP addresses when a request is made to get the first free IP address from the free queue, the difference between the current time stamp and the time stamp stored for the first IP address is calculated. If the difference equals or exceeds the configured recycle delay, the IP address is allocated to the peer.

If the configured recycle delay is not equal or exceeded, then the request is denied. Because the free queue is a first-in, first-out (FIFO) queue, all the other IP addresses will have a greater recycle delay than the first IP address. When an address assignment request is denied because the IP address recycle delay time has not expired, a count increments for the pool.

An IP address from the pool is marked as an orphan, when the IP address is still in use but the underlying IP pool has been removed or changed. In these cases, there is no pool for the IP address to return to when the session terminates. The IP address frees immediately and no recycle delay is applied.

How to Configure the IP Local Pools Holdback Timer

This section describes the procedures for configuring the IP Local Pools Holdback Timer feature. For complete information on commands, see the [Cisco IOS Dial Technologies Command Reference, Release 12.4](#).

To configure an IP local pool holdback timer, follow these steps:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ip local pool** *poolname low-ip-address [high-ip-address]* **recycle delay** *seconds*
4. **exit**

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	ip local pool poolname low-ip-address [high-ip-address] recycle delay seconds Example: Router(config)# ip local pool example 10.1.1.1 10.2.1.1 recycle delay 30	Sets the IP local pool recycle delay for the poolname.
Step 4	exit Example: Router(config)# exit	Exits the current mode.

Configuring an IP Local Pools Holdback Timer: Example

The following example shows how to configure an IP local pools holdback timer of 30 seconds for the local pool example_pool for the IP address range 10.1.1.1 through 10.2.1.1:

```
gateway> enable
gateway# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
gateway(config)# ip local pools example_pool 10.1.1.1 10.2.1.1 recycle delay 30
```

Additional References

The following sections provide references related to the IP Local Pools Holdback Timer feature.

MIBs

MIB	MIBs Link
None	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

Technical Assistance

Description	Link
The Cisco Technical Support website contains thousands of 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/techsupport

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