

Address Hold Timer Support

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Feature Summary and Revision History

Summary Data

Applicable Product(s) or Functional Area	P-GW
Applicable Platform(s)	• ASR 5500 • VPC-DI • VPC-SI
Feature Default	Disabled - Configuration Required
Related Changes in This Release	Not Applicable
Related Documentation	• *P-GW Administration Guide* • *Command Line Interface Reference*

Revision History

Revision Details	Release
P-GW supports configuring of Address Hold Timer for IPv6.	21.28.m14

Feature Description

In P-GW, if the IPv4 **address-hold-timer** parameter is enabled and an active subscriber is disconnected, the IP address becomes held or considered still in use. The IP address does not return to the **Release** state until the **address-hold-timer** expires.

This enables subscribers who reconnect within the specified length of time (in seconds) to obtain the same IP address from the IP pool.

With this release, the Address Hold Timer feature supports IPv6 pools through a CLI configuration.

Using show CLI configuration commands, you can view the following:

- The address in USED, HOLD, FREE, and RELEASE state and list of addresses.
- The busyout states with the address hold timer state.
- The cumulative number of IP addresses in each state.

Upgrade and Downgrade Process

If the Address Hold Timer CLI is configured, post upgrade this feature works for the IPv6 pool.

If you have enabled the Address Hold Timer for IPv6, post downgrade, where AHT for IPv6 was not supported, the complete IPv6 pool configuration gets ignored. Ensure that the Address Hold Timer for IPv6 gets removed from the configuration before the downgrade procedure.

Configuring Address Hold Timer

Use the following sample configuration to enable the IPv6 address hold timer.

```
configure
   context context_name
      [ no ] ipv6 pool pool_name prefix ip_address/len public priority
address-hold-timer address_hold_timer_value
   end
```

NOTES:

- **ipv6 pool** *pool_name* **prefix** *ip_address/len* **public** *priority* **address-hold-timer** *address_hold_timer_value*: Enables address hold timer support for an IPv6 pool.

  If the **address-hold-timer** is enabled and an active subscriber is disconnected, the IP address is held or considered in use and is not returned to the Free state until the **address-hold-timer** expires. This enables subscribers who reconnect within the length of time specified (in seconds) to obtain the same IP address from the IP pool.

  For example, **Ipv6 pool PUBLIC1V6 prefix 5001::aaaa/48 public 0 address-hold-timer 120**

Note

- You can configure the **address-hold-timer** value under different keywords and under the IPv6 pool. However, the address hold timer gets configured with the latest **address-hold-timer** value configured.
- The **address-hold-timer** value is configured in seconds and the value of 0 represents that the address hold timer is disabled.
- In P-GW, the On the fly change of Address Hold Timer(AHT) is not supported. If the AHT is configured, then ongoing calls do not move to the Hold state. If the AHT is configured and then the call is connected then, the IP moves to the Hold state.

  The On-the-fly Address Hold Timer(AHT) behavior is similar for IPv4 and IPv6 pools.

- **no** : Removes the configured address hold timer for a specific pool. For example, `no ipv6 pool PUBLIC1V6 address-hold-timer`

Monitoring and Troubleshooting

This section provides information regarding the CLI command available in support of the Address Hold Timer feature.

Show Command(s) and/or Outputs

This section provides information regarding show commands and/or their outputs in support of this feature.

show ipv6 pool *pool_name*

The output of the **show ipv6 pool pool_name PUBLIC1V6 { free | used | release | hold | limit | wide }** command is modified to display the Address hold timer CLI statistics. For example:

```
 show ipv6 pool pool-name PUBLIC1V6
    Pool Name:     PUBLIC1V6
    Group Name:
    Pool Type:     Public        Priority: 0
    Pool Id:       2001          Vrf: n/a
    Pool Status:   Good
    Start Prefix:  5001::/64
    End Prefix:    5001:0:0:ffff::/64
        Addr-Hold-Timer: 100
        Total Prefix:  65536        Used Prefix: 0      Free Prefix: 65533       On-Hold
Prefix: 1       Released Prefix: 2
        Pool Address Type: Normal
    Configured Prefix: 5001::aaaa/48
    User-Plane  ID   : N/A
    Virtual-FE  ID   : N/A
                 Nexthop Forwarding Address: Disabled
      Network Reachability Detection Server: Disabled
                  Suppress-Switchover-ADVS: Disabled
                   Allow-Static-Allocation: Disabled
                  Duplicate-Addr-Detection: Disabled
```

```
                     Send-Pilot-Packet: Enabled
                     Advertise-if-used: Disabled
  Addr-Hold-Timer-IPV6: 202                        Group Available Threshold: Disabled
Clear: Disabled
                   Pool-Free Threshold: Disabled    Clear: Disabled
                   Pool-Used Threshold: Disabled    Clear: Disabled
          cip-local-pool-used Threshold: Disabled    Clear: Disabled
   cip-local-pool-in-use-addr Threshold: Disabled    Clear: Disabled
```

Where:

- **used** - An address in the **used** state is one that is currently in use by a connected subscriber.
- **hold** – An address in the hold state is one that has recently been released from the pool, but for which the **address-hold timer** has not yet expired.
- **free** – An address in the free state is one that in not currently in use by a subscriber and has no NAI and IMSI data that are stored from a previous user of this address.
- **release** – An address in the released state is one that has been released from the pool, and the address-hold timer has expired for this address. This address has NAI and IMSI data that are stored for the previous subscriber.
- **limit** – An address in the limit state displays default 100 IP addresses information, if no limit value is specified.
- **wide** – An address in the wide state is one that displays information potentially formatted to greater than 80 columns.