Bulk Busyout IP Pools based on VRFs

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 to Enable
Related Changes in This Release	Not applicable
Related Documentation	• *Command Line Interface Reference* • *P-GW Administration Guide*

Revision History

Revision Details	Release
First introduced	2024.03.0

Busyout IP Pools

Busyout makes addresses from an IP pool in the current context unavailable once they are free.

Bulk Busyout IP Pools

Bulk Busyout IP pools is used to busyout:

- All IP pools in a context
- Specific Address range
- Specific IPv4/IPv6 Pool – range of addresses in the pool or group of addresses in the particular IP pool, or range of IP addresses or group of IP addresses pools.

Bulk Busyout IP Pools by VRF Names

In P-GW, by configuring busyout ip pool using VRF name option you can busyout all the ip pools that are associated with the VRF.

For example, if there are 'n' number of ip pools that are associated with a vrf say vrf_1, then the configuration **busyout ip pool vrf** *vrf_1* sets all the 'n' numbers of ip pools in busyout state. This **busyout ip pool vrf** configuration allows to avoid each pool to be marked busyout independently.

Enable Busyout IPv4 Pool with VRF

You can enable Busyout configuration for multiple IPv4 pools by using the CLI procedure.

Procedure

Step 1 Configure busyout for IPv4 pools based on VRF. The *vrf_name* is case-sensitive and you must enter the value of size 1–63.

busyout ip pool vrf *vrf_name*

Example:

```
[local]qvpc-si# config
[local]qvpc-si(config)# context context_name
[egress]qvpc-si(config-ctx)# busyout ip pool vrf vrf_name
[egress]qvpc-si(config-ctx)# end
```

Step 2 Verify whether the Busyout IPv4 pool is configured when the busyout configuration is in place for IPv4 pools.

show ip pool summary vrf *vrf_name*

Example:

```
[ISP1]laas-setup# show ip pool summary vrf mpls-vrf-1
context ISP1:
+-----Type:    (P) - Public    (R) - Private    (N) - NAT
```

```
|              (S) - Static    (E) - Resource   (O) - One-to-One NAT
|              (M) - Many-to-One NAT
|
|+----State:   (G) - Good      (D) - Pending Delete   (R)-Resizing
||             (I) - Inactive
||
||++--Priority: 0..10 (Highest (0) .. Lowest (10))
||||
||||+-Busyout: (B) - Busyout configured
|||||
|||||
vvvvv Pool Name                        Start Address   Mask/End Address Used    Avail
----- -------------------------------- --------------- ---------------  ----------------
RG00B PRIVATEPOOL3                     10.140.150.0    255.255.255.0    0        254
RG00B PRIVATEPOOL2                     10.140.140.0    255.255.255.0    0        254
RG00B PRIVATEPOOL1                     31.33.0.0       255.255.0.0      0        65534
RG00B privatepool-1                    10.160.0.0      255.248.0.0      0        524286

Total Pool Count: 5
Total Pool Kernel Routes: 9    Max Pool Kernel Routes: 6000
Total Pool Explicit Host Routes: 0    Max Pool Explicit Host Routes: 24000

ISP1]laas-setup# show ip pool summary vrf mpls-vrf-1 wide
context ISP1:
+-----Type:    (P) - Public    (R) - Private    (N) - NAT
|              (S) - Static    (E) - Resource   (O) - One-to-One NAT
|              (M) - Many-to-One NAT
|
|+----State:   (G) - Good      (D) - Pending Delete   (R)-Resizing
||             (I) - Inactive
||
||++--Priority: 0..10 (Highest (0) .. Lowest (10))
||||
||||+-Busyout: (B) - Busyout configured
|||||
|||||
vvvvv Pool Name                        Start Address   Mask/End Address Used     Hold     Quarantine
  Avail    Rel      Free     Group Name
----- -------------------------------- --------------- ---------------  -------- -------- -----------
 -------- -------- -------- --------------------------------
RG00B PRIVATEPOOL3                     10.140.150.0    255.255.255.0    0        0        0
   254      0        254
RG00B PRIVATEPOOL2                     10.140.140.0    255.255.255.0    0        0        0
   254      0        254
RG00B PRIVATEPOOL1                     31.33.0.0       255.255.0.0      0        0        0
   65534    0        65534
RG00B privatepool-1                    10.160.0.0      255.248.0.0      0        0        0
   524286   0        524286   int41
```

Enable Busyout IPv6 Pool with VRF

You can enable Busyout configuration for IPv6 pools by using the CLI procedure.

Procedure

Step 1 Enable the busyout multiple IPv6 pools based on VRF. The *vrf_name* is case-sensitive and you must enter the value of size 1–63.

busyout ipv6 pool vrf *vrf_name*

Example:

```
[local]qvpc-si# config
[local]qvpc-si(config)# context context_name
[egress]qvpc-si(config-ctx)# busyout ipv6 pool vrf vrf_name
[egress]qvpc-si(config-ctx)# end
```

Step 2 Verify whether the busyout IPv6 pool is configured when busyout configuration is in place for IPv6 IP pools.

show ipv6 pool summary vrf *vrf_name*

Example:

```
[ISP1]laas-setup# show ipv6 pool summary vrf mpls-vrf-1
context ISP1:
+-----Type:    (P) - Public    (R) - Private
|              (S) - Static    (H) - Shared
|
|+----State:   (G) - Good      (D) - Pending Delete   (R)-Resizing
||             (I) - Inactive
||
||++--Priority: 0..10 (Highest (0) .. Lowest (10))
||||
||||+-Addr-Type: (N) - Normal  (T) 6to4
|||||
|||||+-Busyout: (B) - Busyout configured
||||||
||||||
vvvvvv Pool Name            Start Prefix                           End Prefix
             Used     Avail
------ -------------------- ---------------------------------------
----------------------------------------  -------- --------
RG00NB PRIVATEV6            7001::/64                              7001:0:0:ffff::/64
             0        65536
RG00NB PRIVATEV61           8001::/64                              8001:0:0:ffff::/64
             0        65536
RG00NB PRIVATEV62           6001::/64                              6001:0:0:ffff::/64
             0        65536

Total Pool Count: 3
[ISP1]laas-setup# show ipv6 pool summary vrf mpls-vrf-1 wide
context ISP1:
+-----Type:    (P) - Public    (R) - Private
|              (S) - Static    (H) - Shared
|
|+----State:   (G) - Good      (D) - Pending Delete   (R)-Resizing
||             (I) - Inactive
||
||++--Priority: 0..10 (Highest (0) .. Lowest (10))
||||
||||+-Addr-Type: (N) - Normal  (T) 6to4
|||||
|||||+-Busyout: (B) - Busyout configured
||||||
```

```
||||||
vvvvvv Pool Name            Start Prefix                          End Prefix
             Used     Avail
------ -------------------- ------------------------------------
---------------------------------------  -------- --------
RG00NB PRIVATEV6            7001::/64                             7001:0:0:ffff::/64
             0        65536
RG00NB PRIVATEV61           8001::/64                             8001:0:0:ffff::/64
             0        65536
RG00NB PRIVATEV62           6001::/64                             6001:0:0:ffff::/64
             0        65536
Total Pool Count: 3
```

Disable Bulk Busyout by VRF for IPv4 Pools

You can disable bulk busyout by VRF configuration using the CLI procedure.

Note Before unbusying a VRF, if an IP pool is already marked as busyout and associated with a VRF, and then when you configure or unconfigure VRF, the IP pool busyout status remains the same.

Procedure

Enter **no** to disable busyout for IPv4 pools based on VRF. If a pool associated with this VRF is marked as busyout then the IP pool stays busied out.

no busyout ip pool vrf *vrf_name*

Example:

```
[local]qvpc-si# config
[local]qvpc-si(config)# context egress
[egress]qvpc-si(config-ctx)# no busyout ip pool vrf vrf_name
[egress]qvpc-si(config-ctx)# end
```

Note The *vrf_name* is case-sensitive and you must enter the values of size 1–63.

You have successfully disabled the busyout configuration for IPv4 pools.

Disable Bulk Busyout by VRF for IPv6 Pools

You can disable Busyout configuration for multiple IPv6 pools by using the CLI procedure.

Note Before unbusying a VRF, if an IP pool is already marked as busyout and associated with a VRF, and then when you configure or unconfigure VRF, the IP pool busyout status remains the same.

Procedure

Enter **no** to disable busyout for IPv6 pools based on VRF. If a pool associated with this VRF is marked as busyout then the IP pool stays busied out.

no busyout ipv6 pool vrf *vrf_name*

Example:

```
[local]qvpc-si# config
[local]qvpc-si(config)# context egress
[egress]qvpc-si(config-ctx)# no busyout ipv6 pool vrf vrf_name
[egress]qvpc-si(config-ctx)# end
```

Note The *vrf_name* is case-sensitive and you must enter the values of size 1–63.

You have successfully disabled the busyout configuration for IPv6 pools.