PBR 1.1.6.-7 test by egc

DNS Policy

Tested rules

```
config dns_policy
	option name 'redirect_3'
	option src_addr '2001:1c03:59c1:3304::2'
	option dest_dns '2001:4860:4860::8888'

config dns_policy
	option name 'sf2mac'
	option src_addr '98:B8:BC:8B:3F:9E'
	option dest_dns '8.8.4.4'

config dns_policy
	option name 'interface'
	option src_addr '@lan'
	option dest_dns 'wan6'

config dns_policy
	option name 'Redirect Local IP DNS'
	option src_addr '192.168.5.80'
	option dest_dns 'wg_oracle_cloud'

config dns_policy
	option name 'redirect ipv4toipv4'
	option src_addr '192.168.5.224'
	option dest_dns '1.0.0.1'
```

Output

```
add rule inet fw4 pbr_dstnat_lan ip6 saddr { 2001:1c03:4444:3304::2 } tcp dport 53 counter dnat ip6 to 2001:4860:4860::8888:53 comment "redirect_3"
add rule inet fw4 pbr_dstnat_lan ip6 saddr { 2001:1c03:4444:3304::2 } udp dport 53 counter dnat ip6 to 2001:4860:4860::8888:53 comment "redirect_3"
add rule inet fw4 pbr_dstnat_lan ether saddr { 98:B8:BC:8B:3F:9E } tcp dport 53 counter dnat ip to 8.8.4.4:53 comment "sf2mac"
add rule inet fw4 pbr_dstnat_lan ether saddr { 98:B8:BC:8B:3F:9E } tcp dport 53 counter dnat ip6 to :53 comment "sf2mac"
add rule inet fw4 pbr_dstnat_lan ether saddr { 98:B8:BC:8B:3F:9E } udp dport 53 counter dnat ip to 8.8.4.4:53 comment "sf2mac"
add rule inet fw4 pbr_dstnat_lan ether saddr { 98:B8:BC:8B:3F:9E } udp dport 53 counter dnat ip6 to :53 comment "sf2mac"
add rule inet fw4 pbr_dstnat_lan iifname { lan } tcp dport 53 counter dnat ip to :53 comment "interface"
add rule inet fw4 pbr_dstnat_lan iifname { lan } tcp dport 53 counter dnat ip6 to 2001:4860:4860::8844:53 comment "interface"
add rule inet fw4 pbr_dstnat_lan iifname { lan } udp dport 53 counter dnat ip to :53 comment "interface"
add rule inet fw4 pbr_dstnat_lan iifname { lan } udp dport 53 counter dnat ip6 to 2001:4860:4860::8844:53 comment "interface"
add rule inet fw4 pbr_dstnat_lan ip saddr { 192.168.5.80 } tcp dport 53 counter dnat ip to 9.9.9.9:53 comment "Redirect Local IP DNS"
add rule inet fw4 pbr_dstnat_lan ip saddr { 192.168.5.80 } udp dport 53 counter dnat ip to 9.9.9.9:53 comment "Redirect Local IP DNS"
add rule inet fw4 pbr_dstnat_lan ip saddr { 192.168.5.224 } tcp dport 53 counter dnat ip to 1.0.0.1:53 comment "redirect ipv4toipv4"
add rule inet fw4 pbr_dstnat_lan ip saddr { 192.168.5.224 } udp dport 53 counter dnat ip to 1.0.0.1:53 comment "redirect ipv4toipv4"
```

Sources which can have both IPv4 or IPv6 have an empty destination

For sources which can have both IPv4 or IPv6 we have to test for available destination

Domain Policy

```
config policy
        option name 'ipchicken'
        option dest_addr 'ipchicken.com'
        option interface 'wan'

config policy
        option name 'google'
        option dest_addr 'google.com'
        option interface 'wan'

config policy
        option name 'ipv6.google'
        option dest_addr 'ipv6.google.com'
        option interface 'wan'
```

```
add rule inet fw4 pbr_prerouting ip daddr { 104.26.7.112,172.67.68.101,104.26.6.112 } goto pbr_mark_0x010000 comment "ipchicken"
add rule inet fw4 pbr_prerouting ip daddr { 142.250.179.174 } goto pbr_mark_0x010000 comment "google"
add rule inet fw4 pbr_prerouting ip6 daddr { 2a00:1450:400e:802::200e } goto pbr_mark_0x010000 comment "google"
add rule inet fw4 pbr_prerouting ip6 daddr { 2a00:1450:400e:811::200e } goto pbr_mark_0x010000 comment "ipv6.google"
```

Working as advertised

Source Policy

Tested rules

```
config policy
        option name 'SF20'
        option src_addr '98:B8:BC:8B:3F:9E'
        option interface 'wg_oracle_cloud'

config policy
        option name 'PC6'
        option src_addr '2001:3c00::1/64'
        option interface 'wg_oracle_cloud'

config policy
        option name 'PC4'
        option src_addr '192.168.5.80'
        option interface 'wg_oracle_cloud'
```

Output

```
add rule inet fw4 pbr_prerouting ip daddr { 104.26.6.112,104.26.7.112,172.67.68.101 } goto pbr_mark_0x010000 comment "ipchicken"
add rule inet fw4 pbr_prerouting ether saddr { 98:B8:BC:8B:3F:9E } goto pbr_mark_0x020000 comment "SF20"
add rule inet fw4 pbr_prerouting ip saddr { 2001:3c00::1/64 } goto pbr_mark_0x020000 comment "PC6"
add rule inet fw4 pbr_prerouting ip6 saddr { 2001:3c00::1/64 } goto pbr_mark_0x020000 comment "PC6"
add rule inet fw4 pbr_prerouting ip saddr { 192.168.5.80 } goto pbr_mark_0x020000 comment "PC4"
add rule inet fw4 pbr_prerouting ip6 saddr { 192.168.5.80 } goto pbr_mark_0x020000 comment "PC4"
```

We need to test for IPv of source address

Possible patch for both problems:

https://github.com/egc112/OpenWRT-egc-add-on/blob/main/pbr-egc-1-1.1.6-7.patch

```
--- pbr-1.1.6-7.bash	2024-07-16 08:33:34.365009000 +0200
+++ pbr-egc-1-1.1.6-7.bash	2024-07-16 08:32:29.362373000 +0200
@@ -1292,14 +1292,14 @@

        local ipv4_error='0' ipv6_error='0'
        if [ "$policy_routing_nft_prev_param4" != "$param4" ]; then
-           if [ -n "$first_value" ] && ! is_ipv6 "$first_value" && [ -z "$inline_set_ipv4_empty_flag" ]; then
+           if [ -n "$first_value" ] && ! is_ipv6 "$first_value" && [ -z "$inline_set_ipv4_empty_flag" ] && [ -n "$dest_dns_ipv4" ]; then
                nft4 "$param4" || ipv4_error='1'
                policy_routing_nft_prev_param4="$param4"
            fi
        fi
        if [ "$policy_routing_nft_prev_param6" != "$param6" ] && \
            [ "$param4" != "$param6" ]; then
-           if [ -n "$first_value" ] && ! is_ipv4 "$first_value" && [ -z "$inline_set_ipv6_empty_flag" ]; then
+           if [ -n "$first_value" ] && ! is_ipv4 "$first_value" && [ -z "$inline_set_ipv6_empty_flag" ] && [ -n "$dest_dns_ipv6" ]; then
                nft6 "$param6" || ipv6_error='1'
                policy_routing_nft_prev_param6="$param6"
            fi
@@ -1496,12 +1496,12 @@
            param4="$nftInsertOption rule inet $nftTable ${nftPrefix}_${chain} $param4 $dest4 comment \"$name\""
            param6="$nftInsertOption rule inet $nftTable ${nftPrefix}_${chain} $param6 $dest6 comment \"$name\""
            local ipv4_error='0' ipv6_error='0'
-           if [ "$policy_routing_nft_prev_param4" != "$param4" ] && [ -z "$inline_set_ipv4_empty_flag" ]; then
+           if [ "$policy_routing_nft_prev_param4" != "$param4" ] && [ -z "$inline_set_ipv4_empty_flag" ] && ! is_ipv6 "$first_value_src"; then
                nft4 "$param4" || ipv4_error='1'
                policy_routing_nft_prev_param4="$param4"
            fi
            if [ "$policy_routing_nft_prev_param6" != "$param6" ] && \
-               [ "$param4" != "$param6" ] && [ -z "$inline_set_ipv6_empty_flag" ]; then
+               [ "$param4" != "$param6" ] && [ -z "$inline_set_ipv6_empty_flag" ] && ! is_ipv4 "$first_value_src"; then
                nft6 "$param6" || ipv6_error='1'
                policy_routing_nft_prev_param6="$param6"
            fi
```