

# Configure Packet-Trace to Debug PBR Traffic on XE Platforms

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## Introduction

This document describes the procedure to enable packet-trace on IOS-XE platform to capture Policy-Based Routing (PBR) traffic on Cisco's Integrated Service Router (ISR) 4000 series platform.

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## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

This document is not restricted to specific software and hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

## Configure

Here is the configuration to enable packet-trace to debug PBR traffic:

PBR Configurations:

```
route-map PBR permit 10
```

```

match ip address 102
set ip next-hop 192.168.1.18 ip access-list extended 102
permit ip 192.168.1.0 0.0.3.255 any
permit ip 192.168.2.0 0.0.0.255 any
interface GigabitEthernet0/0/1
ip address 192.168.2.10 255.255.255.248
no ip redirects
no ip unreachable
no ip proxy-arp
ip nat inside
ip policy route-map PBR
load-interval 30
negotiation autoroute-map PBR, permit, sequence 10
Match clauses:
  ip address (access-lists):102
Set clauses:
  ip next-hop 192.168.1.18
Policy routing matches: 500 packets, 400 bytes

```

- To debug particular subnet, create an access-list:

```

ip access-list ext 103
permit ip host 192.168.3.10 any

```

- Apply the access-list in the PBR:

```

route-map PBR
match ip address 103

```

- Perform conditional debug on the interface where PBR is applied:

```

debug platform condition interface gigabitethernet 0/0/1 ipv4 access-list 103 both

```

- Enable these debugs:

```

debug platform packet-trace packet 64
debug platform packet-trace packet 16 fia-trace
debug platform packet-trace enable
debug platform condition start

```

Initiate traffic from the subnet.

**Note:** Use the [Command Lookup Tool](#) ([registered](#) customers only) in order to obtain more information on the commands used in this section.

## Verify

There is currently no verification procedure available for this configuration.

## Troubleshoot

This section provides information you can use in order to troubleshoot your configuration.

```

Router #sh debugging
IOSXE Conditional Debug Configs:
Conditional Debug Global State: Start
Conditions Direction
-----|-----
-----
GigabitEthernet0/0/1 & IPV4 ACL [102] both

```

```

Feature Condition Type Value
-----|-----|-----
Feature Type Submode Level
-----|-----|-----
IOSXE Packet Tracing Configs:
debug platform packet-trace enable
debug platform packet-trace packet 16 fia-trace data-size 2048
Packet Infra debugs:
Ip Address Port
-----|-----

```

**show platform packet-trace packet 0** shows the first packet that is traced.

Summary shows that the input packet is received on gig 0/0/1 and forwarded on to output interface gig 0/0/2 and the state is fwd.

In path trace you can find source and destination ip address.

To verify if the packet is policy based, check: **IPV4\_INPUT\_PBR** field.

```

Feature: FIA_TRACE
  Entry      : 0x10f81c00 - IPV4_INPUT_PBR
  Lapsed time: 23220 ns

```

```

Router#sh platform packet-trace packet 0
Packet: 0          CBUG ID: 458151
Summary
  Input      : GigabitEthernet0/0/1
  Output     : GigabitEthernet0/0/2
  State      : FWD
  Timestamp
    Start    : 355835562633335 ns (12/28/2016 08:11:52.433136 UTC)
    Stop     : 355835562660187 ns (12/28/2016 08:11:52.433163 UTC)

```

```

Path Trace
Feature: IPV4
  Source      : 192.168.3.10
  Destination : 74.125.200.189
  Protocol    : 17 (UDP)
  SrcPort     : 56018
  DstPort     : 443
Feature: FIA_TRACE
  Entry      : 0x10f82018 - DEBUG_COND_INPUT_PKT
  Lapsed time: 2060 ns
Feature: FIA_TRACE
  Entry      : 0x10f81c38 - IPV4_INPUT_SRC_LOOKUP_ISSUE
  Lapsed time: 2160 ns
Feature: FIA_TRACE
  Entry      : 0x10f81c34 - IPV4_INPUT_DST_LOOKUP_CONSUME
  Lapsed time: 3080 ns
Feature: FIA_TRACE
  Entry      : 0x10f81c2c - IPV4_INPUT_SRC_LOOKUP_CONSUME
  Lapsed time: 700 ns
Feature: FIA_TRACE
  Entry      : 0x10f82000 - IPV4_INPUT_FOR_US_MARTIAN
  Lapsed time: 800 ns
Feature: FIA_TRACE
  Entry      : 0x10f81c14 - IPV4_INPUT_FNF_FIRST
  Lapsed time: 15280 ns
Feature: FIA_TRACE
  Entry      : 0x10f81ff4 - IPV4_INPUT_VFR
  Lapsed time: 620 ns
Feature: FIA_TRACE

```

Entry : 0x10f81c00 - IPV4\_INPUT\_PBR  
Lapsed time: 23220 ns  
Feature: FIA\_TRACE  
Entry : 0x10f816f4 - IPV4\_INPUT\_TCP\_ADJUST\_MSS  
Lapsed time: 1500 ns  
Feature: FIA\_TRACE  
Entry : 0x10f81e90 - IPV4\_INPUT\_LOOKUP\_PROCESS  
Lapsed time: 5100 ns  
Feature: FIA\_TRACE

## Related Information

- [IOS-XE Datapath Packet Trace Feature](#)
- [Technical Support & Documentation - Cisco Systems](#)