



PfRv3 Probe Reduction

This document provides information about the PfRv3 Probe Reduction feature that allows reducing traffic probe on channels that do not carrying any traffic.

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Feature Information for PfRv3 Probe Reduction

Table 1: Feature Information for PfRv3 Probe Reduction

Feature Name	Releases	Feature Information
PfRv3 Probe Reduction	15.6(3)M Cisco IOS XE Denali 16.3.1	This document provides information about the PfRv3 Probe Reduction feature that allows reducing traffic probe on channels that do not carrying any traffic. The following command was introduced: smart-probes burst

Prerequisites for PfRv3 Probe Reduction

Information About PfRv3 Probe Reduction

The PfRv3 Probe Reduction feature allows reducing traffic probe on channels that do not carry any traffic. Probing is used to compute important metrics such as reachability, one-way delay (OWD), jitter, and loss on channels that do not have user traffic. It helps PfRv3 algorithm to choose the best channel to use for a given traffic class.

A domain level parameter is defined to store the probing information. You need to store two sets of parameters; general monitor and quick monitor. In other words, one can specify the number of packets to be sent in a probe burst and the interval between such bursts.

Smart probe are of three types:

- **Active Channel Probe**—Active channel probe is sent out to measure network delay if no probe is sent out for past 10 seconds interval.
- **Unreachable Probe**—Unreachable probe is used to detect channel reachability when there is no traffic send out.
- **Burst Probe**—Burst probes are used to calculate delay, loss, jitter on a channel that is not carrying active user traffic.

How to Configure PfRv3 Probe Reduction

Configuring PfRv3 Probe Reduction

You can perform this task on a hub master or a border device.

Procedure

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	domain default Example: Device(config)# domain default	Enters domain configuration mode.
Step 4	Do one of the following: • master hub • border Example: Device(config-domain)# master hub Example: Device(config-domain)# border	Configures the device as a master hub and enters master controller configuration mode. Configures the device as the border and enters border configuration mode. Note If you select border configuration, it overwrites the master configuration.
Step 5	advanced Example:	Enters advanced configuration mode.

	Command or Action	Purpose
	Device(config-domain-mc) # advanced Example: Device(config-domain-br) # advanced	
Step 6	smart-probes burst [quick] <i>number-of-packets</i> packets every <i>interval</i> seconds Example: Device(config-domain-mc-advanced) # smart-probe burst 10 packets every 20 seconds Example: Device(config-domain-br-advanced) # smart-probe burst quick 10 packets every 1 seconds	Specifies the number of packets to be sent in a probe burst and the interval between the bursts. The default values are as follows: <ul style="list-style-type: none"> • 1 packet every 1 second for default monitor • 20 packets every 1 second for quick monitor

Verifying PfRv3 Probe Reduction

Procedure

show domain {default | domain-name} [vrf vrf-name] {master | border} status

Use this command to verify the configuration.

Example:

```
Router# show domain default vrf green master status
```

```
Smart Probe Profile:
  General Monitor:
    Current Provision Level: Master Hub
    Master Hub:
      Packets per burst: 10
      Interval(secs): 20
  Quick Monitor:
    Current Provision Level: Master Hub
    Master Hub:
      Packets per burst: 10
      Interval(secs): 1
Smart Probe Inter-Packet Gap (ms) : 16
Smart Probe Timer Wheel Granularity (ms): 8
```

Configuration Examples for PfRv3 Probe Reduction

Example: PfRv3 Probe Reduction

```
domain default
  master hub
```

```
advanced
smart-probe burst 10 packets every 20 seconds
smart-probe burst quick 10 packets every 1 seconds
```

Additional References for PfRv3 Probe Reduction

Related Documents

Related Topic	Document Title
Cisco IOS commands	Cisco IOS Master Command List, All Releases
Performance Routing Version 3 commands	Cisco IOS Performance Routing Version 3 Command Reference