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.

Feature Information for PfRv3 Probe Reduction

Table 1: Feature Information for PfRv3 Probe Reduction

Feature Name	Releases	Feature Information
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. 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.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **domain default**
4. Do one of the following:
   - **master hub**
   - **border**
5. **advanced**
6. **smart-probes burst** [**quick**] *number-of-packets* **packets every** *interval* **seconds**

DETAILED STEPS

	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.

	Command or Action	Purpose

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:
	`Device(config-domain-mc)# advanced`
	
	Example:
	`Device(config-domain-br)# advanced`
		Enters advanced configuration mode.

Step 6	**smart-probes burst** [**quick**] *number-of-packets* **packets every** *interval* **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:
		
		   • 1 packet every 1 second for default monitor
		
		   • 20 packets every 1 second for quick monitor

Verifying PfRv3 Probe Reduction

SUMMARY STEPS

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

DETAILED STEPS

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
Performance Routing Version 3 commands	Cisco IOS Performance Routing Version 3 Command Reference