



Site Prefix Splitting

The site-prefix splitting feature allows configuring the minimum mask length for traffic classes.

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Feature Information for Site Prefix Splitting

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for Site Prefix Splitting

Feature Name	Releases	Feature Information
Site Prefix Splitting	Cisco IOS XE Denali 16.3.1	The site-prefix splitting feature allows configuring the minimum mask length for traffic classes. The following commands were introduced or modified: minimum-mask-length, show domain default vrf.

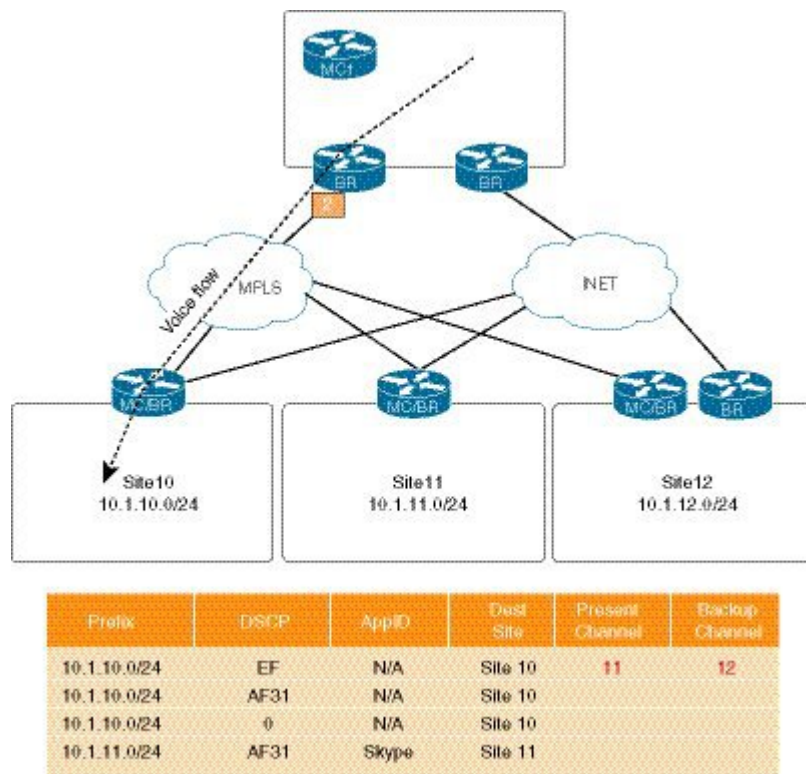
Information About Site Prefix Splitting

Introduction to Traffic Classes

PfRv3 manages aggregation of flows called traffic classes. A traffic class is an aggregation of flows destined to a destination prefix, that has a similar DSCP and application name (if application based policies are used). Traffic classes are learnt by monitoring traffic moving in egress direction on WAN interface.

The following figure explains Performance Monitor, depicted as 2.

Figure 1: Egress Performance Monitor



In the above figure, the border routers perform the following functions:

- Activates the egress aggregate monitor (depicted as 2 in the figure)
- Manage the Performance Monitor timer
- Collect traffic classes
- Export records to the local master controller

The local master controller performs the following functions:

- Updates the traffic class database with the new received records
- Maps the destination prefix with a site-id based on destination prefix using its site prefix database

- Maps to primary and backup channels for performance monitoring

Traffic Classes and Site Prefix Splitting

The site-prefix mask length influences the traffic classes. The Site Prefix Splitting feature allows you to configure minimum mask length for traffic classes. This feature enhances the granularity of traffic classes. The granularity of traffic classes enables better load balancing by distributing the traffic classes among service providers in such a manner that each service provider's egress interface bandwidth utilization is within 20 percent of each other. Thus, having more traffic classes will enable a better distribution of traffic among the service providers.

For example, the command **ip route vrf green 100.20.0.0/24 100.20.0.10 100.20.0.310** translates to **100.20.0.0/16** in the site prefix database.

A site prefix splitting with a mask length of 24 would translate to the following list in the site prefix database:

```
100.20.0.0 /24
100.20.1.0 /24
100.20.2.0 /24
100.20.3.0 /24
100.20.4.0 /24
```

How to Configure Site Prefix Splitting

Configuring Site Prefix Splitting

Perform this task to configure Site Prefix Splitting feature by using the **minimum-mask-length enterprise value** command.

```
domain default
vrf green
master hub
advanced
minimum-mask-length 24
minimum-mask-length enterprise 24
```

Verifying Site Prefix Splitting

Use the following commands to verify site prefix splitting configuration:

- **show domain default vrf green master status** command on the master controller
- **show domain default vrf green border status** command on the branch router

```
HMCBR# show domain default vrf green master status
*** Domain MC Status ***

Master VRF: green

Instance Type:      Hub
Instance id:        1
Operational status: Up
Configured status:  Up
Loopback IP Address: 100.10.1.1
Global Config Last Publish status: Peering Success
Load Balancing:
```

```

Admin Status: Disabled
Operational Status: Down
Enterprise top level prefixes configured: 0
Route Control: Enabled
Transit Site Affinity: Enabled
Load Sharing: Enabled
Mitigation mode Aggressive: Disabled
Policy threshold variance: 20
Minimum Mask Length Internet: 24          <<<< "Internet" added to the existing internet
mml
Minimum Mask Length Enterprise: 24        <<<< New line added for the enterprise mml
Syslog TCA suppress timer: 180 seconds
Traffic-Class Ageout Timer: 5 minutes
Channel Unreachable Threshold Timer: 1 seconds
Minimum Packet Loss Calculation Threshold: 15 packets
Minimum Bytes Loss Calculation Threshold: 1 bytes
HMCCR# show domain default vrf green border status

Wed Oct 07 09:05:51.504
-----
**** Border Status ****

Instance Status: UP
Present status last updated: 00:03:14 ago
Loopback: Configured Loopback1 UP (100.10.1.1)
Master: 100.10.1.1
Master version: 2
Connection Status with Master: UP
MC connection info: CONNECTION SUCCESSFUL
Connected for: 00:03:08
Route-Control: Enabled
Asymmetric Routing: Disabled
Minimum Mask Length Internet: 24          <<<<
Minimum Mask Length Enterprise: 24        <<<<
Sampling: off
Channel Unreachable Threshold Timer: 1 seconds
Minimum Packet Loss Calculation Threshold: 15 packets
Minimum Byte Loss Calculation Threshold: 1 bytes
Monitor cache usage: 5000 (50%) Auto allocated
Minimum Requirement: Met
External Wan interfaces:
    Name: Tunnel10 Interface Index: 24 SNMP Index: 21 SP: ISP1 path-id: 1 Status: UP
Zero-SLA: NO Path of Last Resort: Disabled

Auto Tunnel information:

    Name:Tunnel10 if_index: 32
    Virtual Template: Not Configured
    Borders reachable via this tunnel: 100.10.4.1 , 100.10.2.1 , 100.10.3.1
-----

```

Additional References for Site Prefix Splitting

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

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

