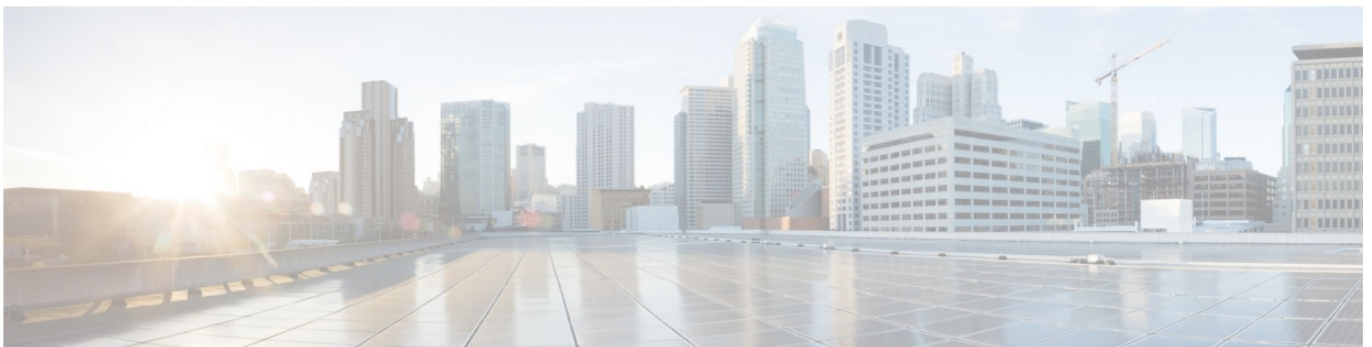


CISCO ASR 1000 Series Aggregation Services Routers User Guide

[Home](#) » [Cisco](#) » CISCO ASR 1000 Series Aggregation Services Routers User Guide 



ASR 1000 Series Aggregation Services Routers User Guide

Contents

- [1 EVPN VPWS over SR-TE Preferred Path](#)
- [2 Feature Information for EVPN VPWS over SR-TE Preferred Path](#)
- [3 Information About EVPN VPWS over SR-TE Preferred Path](#)
- [4 Documents / Resources](#)
 - [4.1 References](#)

EVPN VPWS over SR-TE Preferred Path

The Ethernet VPN Virtual Private Wire Service (EVPN VPWS) functionality implements the signaling and encapsulation techniques for establishing an EVPN instance between a pair of PEs. This enhancement extends EVPN VPWS to support the specification of an SR-TE policy using the preferred path feature.

- Feature Information for EVPN VPWS over SR-TE Preferred Path, on page 1
- Restrictions for EVPN VPWS over SR-TE Preferred Path, on page 1
- Information About EVPN VPWS over SR-TE Preferred Path, on page 2
- How to Configure EVPN VPWS over SR-TE Preferred Path, on page 2
- Verifying EVPN VPWS over SR-TE Preferred Path , on page 3

Feature Information for EVPN VPWS over SR-TE Preferred Path

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 the Cisco Feature Navigator to find information about platform support and Cisco software image support.

To access the Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for EVPN VPWS over SR-TE Preferred Path

Feature Name	Releases	This feature was introduced.
EVPN VPWS over SR-TE Preferred Path	Cisco IOS XE Cupertino 17.7.1a	Feature Information

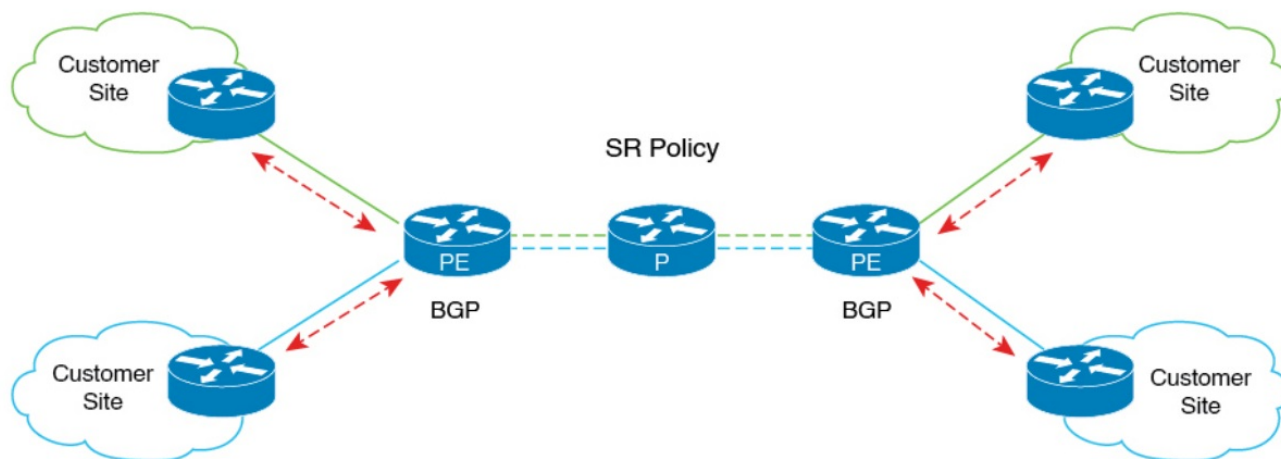
Restrictions for EVPN VPWS over SR-TE Preferred Path

- SR On-Demand Next Hop (ODN) policy is not supported; only SR static policy is supported.
- SR Per-Flow Policy (PFP) is not supported; only SR Per-Destination Policy (PDP) is supported.
- Interior Gateway Protocol (IGP) is Intermediate System-to-Intermediate system (IS-IS).

Information About EVPN VPWS over SR-TE Preferred Path

The EVPN VPWS functionality implements the signaling and encapsulation techniques for establishing an EVPN instance between a pair of PEs. This enhancement enables EVPN VPWS to support the specification of an SR-TE policy using the preferred path feature. This feature includes the fallback disable option, which disables the default behavior of falling back on an alternate path if the preferred path is down. The following figure illustrates the architecture:

Figure 1: EVPN VPWS over SR-TE Architecture



How to Configure EVPN VPWS over SR-TE Preferred Path

The following sections provide information about the tasks involved in configuring EVPN VPWS over the SR-TE preferred path.

Configuring EVPN VPWS over SR-TE Preferred Path

The following example shows how to enable EVPN VPWS over the configured SR-TE preferred path:

```
l2vpn evpn instance 100 point-to-point rd 100:100 route-target export 100:100 route-target import 100:100 ! vpws
context vc100 preferred-path segment-routing traffic-eng policy p-100 service target 100 source 100 interface
GigabitEthernet0/0/3 service instance 100 ethernet encapsulation dot1q 100
```

Configuring EVPN VPWS over SR-TE Preferred Path with Fallback Disable

The fallback disable command prevents a device from using the default path if the preferred path SR policy goes down.

```
l2vpn evpn instance 100 point-to-point rd 100:100 route-target export 100:100 route-target import 100:100 vpws
context vc100 service target 100 source 100 member GigabitEthernet0/0/3 service-instance 100 preferred-path
segment-routing traffic-eng policy p-100 disable-fallback
```

Removing Fallback Disable from EVPN VPWS over SR-TE Preferred Path The following example shows how to remove the fallback disable option in EVPN VPWS over SR-TE preferred path:

```
l2vpn evpn instance 100 point-to-point vpws context vc100 preferred-path segment-routing
traffic-eng policy p-100
```

Disabling EVPN VPWS over SR-TE Preferred Path Configuration

The following example shows how to disable the EVPN VPWS over SR-TE preferred path configuration:

```
l2vpn evpn instance 100 point-to-point vpws context vc100 no preferred-path segment-routing traffic-eng policy p-100
disable-fallback
```

Verifying EVPN VPWS over SR-TE Preferred Path The following sample outputs show how to verify the EVPN VPWS over SR-TE preferred path and fallback disable configurations.


- The following is a sample output showing the EVPN VPWS configuration over an SR-TE preferred path:
device# show l2vpn evpn vpws VC ID 100 detail EVPN name: vc100, state: up, type: point-to-point EVPN ID: 100 VPWS Service Instance ID: Source 1, Target 2 Labels: Local 17, Remote 17 Next Hop Address: 6.6.6.6 Associated member interface Gi0/0/3 up, Gi0/0/3:3000 status is up Output interface: Tu65536, imposed label stack {16016 17} Preferred path: active Default path: ready device# show l2vpn evpn vpws vc preferred-path
Tunnel EVPN ID Source Target Name Status ----- Tunnel65536 100 1 2 vc100 up
- The following is a sample output showing the EVPN VPWS configuration over an SR-TE preferred path, with fallback disabled:
device# show l2vpn evpn vpws VC ID 100 detail EVPN name: vc100, state: up, type: point-to-point EVPN ID: 100 VPWS Service Instance ID: Source 1, Target 2 Labels: Local 17, Remote 17 Next Hop Address: 6.6.6.6 Associated member interface Gi0/0/3 up, Gi0/0/3:3000 status is up Output interface: Tu65536, imposed label stack {16016 17}
Preferred path: active Default path: disabled Dataplane:
SSM segment/switch IDs: 25037/12290 (used), PWID: 1 Rx Counters 1241 input transit packets, 463266 bytes 0 drops Tx Counters 828 output transit packets, 402840 bytes 0 drops 24 VC FSM state transitions, Last 10 shown
DpUp: Act -> Est, Mon Sep 06 23:32:43.809 (2w2d ago)
RemDn: Est -> RemWait, Mon Sep 06 23:32:43.809 (2w2d ago)
RemUp: RemWait -> Act, Mon Sep 06 23:32:43.816 (2w2d ago)
DpUp: Act -> Est, Mon Sep 06 23:32:43.816 (2w2d ago)
DpDn: Est -> Act, Mon Sep 06 23:35:57.944 (2w2d ago)
DpUp: Act -> Est, Mon Sep 06 23:43:50.071 (2w2d ago)
DpDn: Est -> Act, Mon Sep 06 23:46:15.361 (2w2d ago)
DpUp: Act -> Est, Mon Sep 06 23:54:11.508 (2w2d ago)
DpDn: Est -> Act, Tue Sep 07 00:00:11.248 (2w2d ago)
DpUp: Act -> Est, Tue Sep 07 00:06:27.355 (2w2d ago)

- The following is a sample output showing the EVPN VPWS configuration over an SR-TE preferred path, with fallback disable option removed: device# show l2vpn evpn vpws VC ID 100 detail EVPN name: vc100, state: up, type: point-to-point EVPN ID: 100 VPWS Service Instance ID: Source 1, Target 2 Labels: Local 17, Remote 17 Next Hop Address: 6.6.6.6 Associated member interface Gi0/0/3 up, Gi0/0/3:3000 status is up Output interface: Tu65536, imposed label stack {16016 17}
Preferred path: active Default path: ready
- The following is a sample output showing the EVPN VPWS configuration over an SR-TE preferred path disabled: device# show l2vpn evpn vpws VC ID 100 detail EVPN name: vc100, state: up, type: point-to-point EVPN ID: 100 VPWS Service Instance ID: Source 1, Target 2 Labels: Local 17, Remote 17 Next Hop Address: 6.6.6.6 Associated member interface Gi0/0/3 up, Gi0/0/3:3000 status is up Output interface: Gi0/0/0, imposed label stack {16 16} Preferred path: not configured Default path: active

EVPN VPWS over SR-TE Preferred Path



Documents / Resources

	<p>CISCO ASR 1000 Series Aggregation Services Routers [pdf] User Guide ASR 1000 Series, ASR 1000 Series Aggregation Services Routers, Aggregation Services Routers, Services Routers, Routers</p>
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References

- [User Manual](#)