

Multicast Virtual Private Network Frequently Asked Questions

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Q. Is the Cisco Multicast Virtual Private Networks (MVPN) solution dependant on Multiprotocol Label Switching (MPLS)?

A. No, Cisco's MVPN solution operates independently from MPLS. The Service provider (SP) does not need to use MPLS for MVPNs.

Q. Is MVPN a recognized standard?

A. MVPNs were outlined in draft-rosen-vpn-mcast-04.txt. Cisco's implementation is based upon the Multicast domain solution.

Q. Can a customer have more than one Multicast VPN routing/forwarding (MVRF)?

A. Currently, only one MVRF is permitted.

Q. Will the MVPN allow inter-VRF connectivity?

A. Effectively, there can be only a single Closed User Group.

Q. Does the SP need to support Multicast to use MVPNs?

A. The SP needs to have a Multicast-enabled core in order to use the Cisco MVPN solution.

Q. Does the Provider's IP Multicast network interact, on the control plane, with the customer's Multicast Network?

A. No, the customers IP Multicast network does not interact with the provider's multicast control plane. This means that the SP's multicast stability has no dependency upon the CE's multicast stability.

Q. Do the SP and the CE have to use the same multicast routing protocol?

A. No. The PE needs to interact with the CE, but the Provider's network is completely separate.

Q. Does the CE router maintain a PIM adjacency with the remote CEs?

A. No, the CE has an adjacency only with the PE to which it is connected.

Q. Can the SP core be BGP-free if it deploys the Cisco MVPN solution?

A. Yes. The MVPN solution does not require BGP to be deployed in the SP core. However, the PE routers must have MBGP for the next hop information.

Q. What is a Data Multicast Distribution Tree (MDT)?

A. Data MDT is a dynamically created group, created when a customer's stream of multicast traffic exceeds a configured threshold on the PE. The purpose of the MDT is to allow only those remote PEs who are interested in that stream to receive it.

Q. How does the remote PE know to join the Data MDT?

A. The remote PEs are notified of the Data MDT via a UDP packet on port 3232. This UDP packet is sent on the default MDT to all remote PEs. The UDP packet encapsulates a 224.0.0.13, all PIM routers message.

Q. How many Data MDTs are possible?

A. The number of MDTs is configurable.

Q. What happens if the throughput of a customer's stream surpasses the Data MDT threshold and all Data MDTs are being used?

A. If the maximum number of Data MDTs already exists, the group addresses are reused. This may mean that some PEs receive CE data to which they have not subscribed.

Q. What debug commands will be available?

A. Specifically there will be 'debug ip pim vrf <vrf> <group>'

```
PE2#deb ip pim vrf leuven ?
Hostname or A.B.C.D IP group address
atm                PIM ATM signalling activity
auto-rp            Auto-RP
bsr                PIM Candidate-RP/BSR activity
df                 PIM RP designated forwarder election activity
<cr>
```

Most other debug commands are VRF aware

```
PE2#deb ip pim ?
Hostname or A.B.C.D IP group address
atm                PIM ATM signalling activity
auto-rp            Auto-RP
bsr                PIM Candidate-RP/BSR activity
df                 PIM RP designated forwarder election activity
tag                PIM multicast tagswitching activity
vrf                Select VPN Routing/Forwarding instance
<cr>
```

Q. On what platforms will be MVPN supported?

A. At First Commercial Shipment (FCS) MVPNs will only be supported on devices that support the T train. However, only the Cisco 7200 and 7500 Series Routers will likely be used as PEs.



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