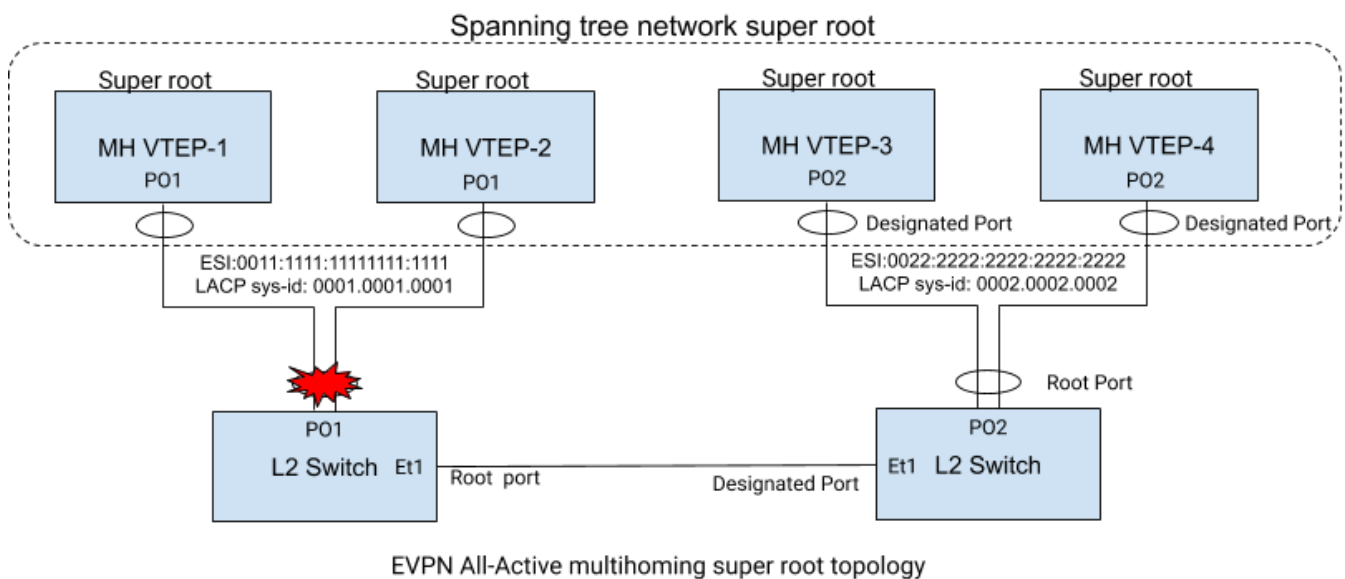


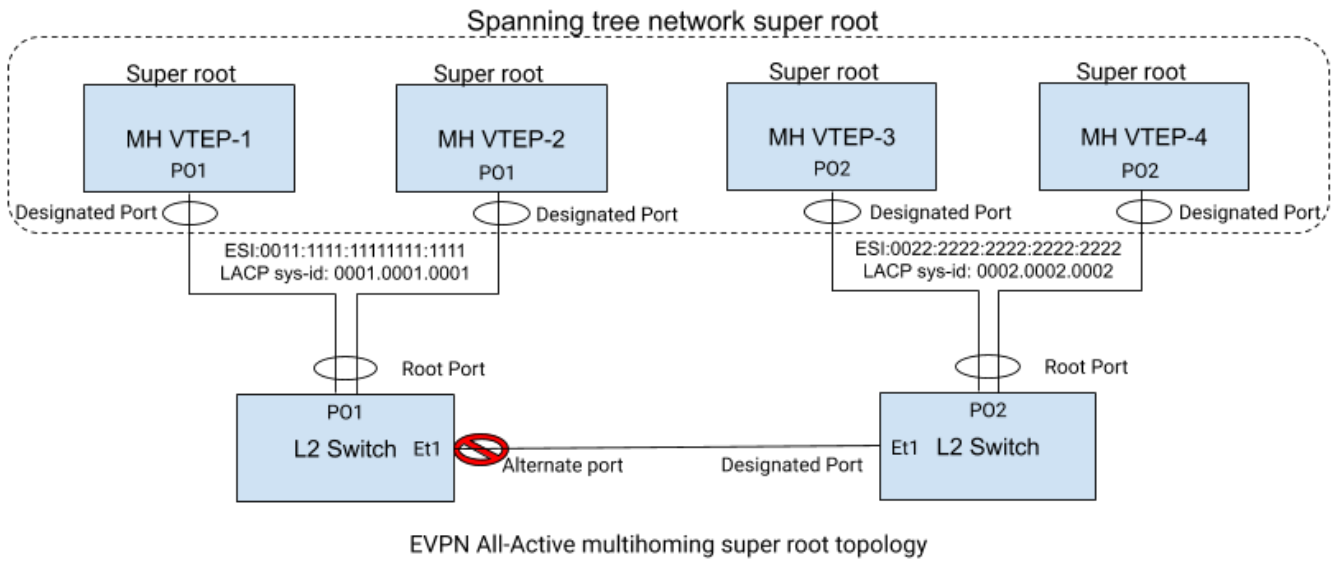
## Description

Arista MLAG supports STP for Layer-2 loop detection. In fact, most customers enable STP in their MLAG(s) to ensure no downstream Layer-2 loops due to mis-cabling or mis-configuration. Pre 4.25.1F EVPN All-Active multihoming mechanism did not support STP downstream because of the following reasons:

- Unlike MLAG, EVPN multihoming peers run STP independently. Hence, all EVPN multihoming PEs send BPDUs independently on port-channel links.
- STP BPDUs will have Bridge ID derived from the local system MAC address, so the BPDUs generated by each multihoming PE are different. Hence, the downstream multihomed switch/server receives different BPDUs from different PEs, so STP state will not converge.

This feature enables the switch to act as STP network super root. When this feature is enabled, it sends STP BPDUs with bridge MAC address and source MAC address as 0000.0000.0001 and priority as 0. This enables topologies like EVPN All-Active multihoming to use STP and detect Layer-2 loops. The user can choose multiple switches to act as STP network super root. This feature supports EVPN-VXLAN and EVPN-MPLS All-Active multihoming configurations.





## Platform compatibility

Supported on all EOS platform

## Configuration

To enable STP network super root run:

```
Arista(config)#spanning-tree root super
```

## Show commands

```
Arista#show spanning-tree
MST0
Spanning tree enabled protocol mstp
Root ID    Priority    0
           Address    0000.0000.0001
           This bridge is the root

Bridge ID  Priority    0 (priority 0 sys-id-ext 0)
           Address    0000.0000.0001
           Hello Time 2.000 sec  Max Age 20 sec  Forward Delay 15 s
ec

Interface    Role          State          Cost          Prio.Nbr  Type
-----
PO1          designated   forwarding    2000          128.1     P2p
```

```
Et3          designated forwarding 2000      128.2      P2p Edge
Et4          designated forwarding 2000      128.3      P2p Edge
Et5          designated forwarding 2000      128.4      P2p Edge
Et6          designated forwarding 2000      128.5      P2p Edge
```

```
Arista#show spanning-tree instance detail
```

```
Stp Detailed Status:
```

```
Stp agent restartable           :           True
Super root                     :           True
MST-PVST interoperation         :           Disabled
Stp heartbeat timeout           :           2.0
Last local heartbeat timeout    :           never
Local heartbeat timeout since reboot :           0
```

```
MST0
```

```
Bridge ID Priority          0 (priority 0 sys-id-ext 0)
Address      0000.0000.0001
Hello Time   2.000 sec Max Age 20 sec Forward Delay 15 s
ec
```

## Syslog messages

The following syslog message is logged when the switch becomes super root

```
SPANTREE-6-ROOTCHANGE: Root changed for instance MST0: new root interface is (none), new root bridge mac address is 00:00:00:00:00:01 (this switch)
```

## Troubleshooting

- Above mentioned mentioned show CLIs and Syslog messages will be helpful.

## Tracing

Disclaimer: In some cases, enabling tracing can seriously impact the performance of the switch. Please use it cautiously and seek advice from an Arista representative before enabling this in any production environments.

The following trace can be enabled for debugging. However, it may affect the performance:

- Arista(config)# trace agent Stp StpProto/\*,Stp/\*

- Arista(config)# trace agent StpTopology StpTopo/\*

## Limitations

1. The user needs to configure and ensure identical STP configuration on all switches configured as STP super root.
2. All the port-channels across multihoming VTEPs should have the same port-channel numbers.
3. There are no Layer-2 links between devices with super root configuration.
4. Super Root Bridge-ID 0000.0000.0001 can't be changed.

## Resources

- [L2EVPN MPLS](#)
- [EVPN VXLAN All-Active Multihoming](#)
- [EVPN VXLAN All-active Multi-homing Integrated Routing and Bridging](#)