Mobile MSTP leased line access to switch is not working



Overview

Unexpected behavior of MSTP in our network. We are trying to migrate a network made up of three Layer 2 Switches running RPVST+ to running MSTP. The networ.

Key Takeaways

A leased line cannot directly connect to a Layer 2 switch because it uses WAN protocols, and MSTP configuration mismatches can further block connectivity.

Key Issues

Leased Line Protocol Compatibility Leased lines typically use WAN protocols such as HDLC or PPP, which are not understood by a standard Layer 2 switch that operates on Ethernet LAN protocols. Connecting a leased line directly to a switch will fail because the switch cannot interpret the WAN frames. A router is required to terminate the leased line and convert the WAN protocol to Ethernet for the switch to handle traffic correctly.

MSTP Configuration Mismatch If MST

P (Multiple Spanning Tree Protocol) is enabled on the switch, connectivity issues can arise if the MSTP configuration is inconsistent across switches. Key parameters that must match include: Region nameRevision numberVLAN-to-instance mappings Mismatched MSTP configurations can cause ports to remain blocked, preventing traffic from passing through the switch.

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VLA

N and Port Membership Ensure that all ports connecting switches within the MSTP region are members of the correct VLANs. If a leased line is connected to a port that is not part of the VLAN used for MSTP forwarding, traffic may be blocked.

Recommended Steps to Resolve

Use a Router for the Leased Line Connect the leased line to a router interface configured with the appropriate WAN protocol (HDLC, PPP, or as specified by your ISP). Then connect the router's LAN interface to the switch. This ensures proper protocol translation and allows MSTP to operate normally on the switch.

Verify MSTP Configuration

Check the MSTP region name, revision number, and VLAN-to-instance mappings on all switches using commands like show spanning-tree mst configuration. Ensure all switches in the MSTP region have consistent settings. Adjust the revision number or region name if necessary.

Check VLAN Membership

Confirm that the switch port connected to the router is in the correct VLAN and that the VLAN is included in the MSTP instance. For trunk ports, ensure 802. 1Q tagging is configured correctly to carry all required VLANs.

Test Connectivity

After connecting the leased line to the router and verifying MSTP and VLAN settings, test connectivity by pinging external networks or the ISP gateway. If issues persist, check for blocked MSTP ports or misconfigured VLANs. By addressing both the protocol mismatch and MSTP configuration, the leased line should function correctly through the switch network.

Article Content

Unexpected behavior of MSTP in our network.

We are trying to migrate a network made up of three Layer 2 Switches running RPVST+ to running MSTP. The network operates fine using PVST. However, when we configure for MSTP we

Troubleshooting: STP and MSTP

Troubleshooting: STP and MSTP Troubleshooting Guidelines for STP and MSTP Troubleshooting Cases for STP and MSTP FAQs About STP and MSTP Troubleshooting: Ethernet

MSTP configuration tasks

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Configure all ports or trunks connecting one switch to another within a region as members of all VLANs in the region. Otherwise, some VLANs could be blocked from access to the spanning tree root for an

How to configure MSTP when using Cisco and Huawei switches

In some cases you need to create Layer-2 domains with switches from different vendors. This article gives you information how to connect Huawei and Cisco switches together with MSTP

Troubleshooting Guidelines for STP and MSTP

After verifying that parameters of the MST region are set correctly, run the active region-configuration command to activate the configuration of the MST region. The active region-configuration command

Deep Dive into Multiple Spanning Tree Protocol (MSTP):

In this post, we''ll dive deep into the configuration and troubleshooting of MSTP on Cisco Catalyst switches, exploring how this protocol can be effectively implemented to interoperate with

Troubleshooting MSTP operation

An MSTP switch intended for a particular region may not have the same configuration name or region revision number as the other switches intended for the same region. The MSTP configuration name

How to Configure Spanning Tree (STP, RSTP, MSTP) | 2025

By properly configuring STP, RSTP, or MSTP on Huawei, Cisco, or Juniper devices, network engineers can achieve the right balance of stability, redundancy, and performance.

Configuring MSTP | Junos OS | Juniper Networks

Once you assign a VLAN to a user-defined MSTI, the switch removes the VLAN from the IST instance. The default factory configuration is RSTP, a faster version of STP. To determine which spanning-tree

Understanding MSTP

With the MSTP multi-process mechanism, spanning trees of different processes are calculated independently and do not affect each other. The network shown in Figure 7-178 can be divided into

Configure Multiple Spanning Tree Protocol (MSTP) on a Switch

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Multiple Spanning Tree Protocol (MSTP) is a protocol that creates multiple spanning trees (instances) for each Virtual LAN (VLAN) on a single physical network. This allows for each

What is MSTP(Multiple Spanning Tree Protocol)?

MSTP may be a new spanning tree protocol characterized in IEEE 802.1s. MSTP employments Different Spanning Tree Instances (MSTIs) and Multiple Spanning Tree (MST) locales.

Configuring MSTP

However, the switch does not automatically revert to the MSTP mode if it no longer receives IEEE 802.1D BPDUs because it cannot detect whether the legacy switch has been removed

Leased line

A leased line is a private telecommunications circuit between two or more locations provided according to a commercial contract. It is sometimes also known as a private circuit, private connect, and as a

MPLS vs leased line: which is better for your business?

In this blog we: Explain what MPLS is and how it works Explain what a leased line is Explore the differences between MPLS and leased lines Compare the benefits of MPLS vs leased

Configuring MSTP

If a switch that does not support MSTP is added to a switch stack that does support MSTP or the reverse, the switch is put into a version mismatch state. If possible, the switch is automatically

802.1s Multiple Spanning Tree Protocol (MSTP)

This achieves load-balancing across the network while keeping the switch''s CPU load at a moderate level (by aggregating multiple VLANs in a single spanning tree instance). MSTP Multiple Spanning

Configuring Multiple Spanning-Tree Protocol

Multiple Spanning-Tree Protocol (MSTP), which uses Rapid Spanning-Tree Protocol (RSTP) for rapid convergence, enables multiple VLANs to be grouped into and mapped to the same spanning-tree

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