H3C core switch STP configuration completes port blocking



Overview

Support If a downstream bridge receives the BPDU and its receiving port is elected as the root port, the bridge blocks all the other ports except edge port.

Key Takeaways

STP on H3C switches blocks redundant ports to prevent loops, allowing only root and designated ports to forward traffic while blocked ports receive BPDUs but do not forward frames.

How ST

P Determines Port BlockingH3C switches use Spanning Tree Protocol (STP) to prevent loops in a network with redundant links.

When ST

P is enabled, the switch exchanges Bridge Protocol Data Units (BPDUs) with neighboring devices to calculate the spanning tree and determine port roles. The key steps include: Root Bridge Election: Switches exchange BPDUs to elect a root bridge based on priority and MAC address. Root Port Selection: Each non-root switch selects the port with the lowest path cost to the root bridge as the root port.

Designated Port Selection: For each network segment, the switch with the lowest path cost to the root bridge has its port designated to forward traffic. Port Blocking: All other ports that are not root or designated are placed in a blocked state. These ports can receive BPDUs but do not forward user traffic, preventing loops.

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ST

P Port States on H3C SwitchesH3C switches follow the standard STP port states: Blocking: Ports do not forward frames but listen for BPDUs to detect loops. Listening: Ports process BPDUs to confirm topology but do not forward frames. Learning: Ports begin populating the MAC address table but still do not forward frames.

Forwarding: Ports forward both user traffic and BPDUs. Only root and designated ports reach this state.

When ST

P completes its calculation, blocked ports remain in the blocking state to maintain a loop-free topology. This is normal behavior and indicates that STP has successfully pruned redundant paths.

Troubleshooting and Verification

To verify STP port roles and states on an H3C switch: Access the switch CLI via console or SSH. Use the command display stp to view the current STP topology, including root bridge, root ports, designated ports, and blocked ports. Check for misconfigurations such as duplex mismatches or BPDU loss, which can cause ports to incorrectly transition to forwarding.

Configuration Tips

Ensure all switches in the network have consistent STP versions (STP, RSTP, or MSTP) and compatible MST regions if using MSTP. Adjust port priorities or path costs if you want to influence which ports are blocked or designated. Avoid enabling conflicting features like GVRP on the same ports as MSTP without proper configuration, as this can affect port roles.

By understanding these principles, you can interpret why certain ports remain blocked after STP convergence and ensure a stable, loop-free network.

Article Content

Troubleshoot STP Problems and Related Design Considerations

This tutorial explains STP port states in detail through examples. Learn STP Blocking, Listing, Learning, and Forwarding states.

Basic CLI Commands on H3C Switch

Learn how to create users, VLANs, enable Telnet and SSH, configure Spanning Tree Protocol, enable DHCP snooping, define trunk ports, and create access ports on H3C switches with step-by-step

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Solved: This port is blocked by Spanning Tree Protocol (STP)-Catalyst ...

We have 6 Cisco 500 switches and all 6 switches have 2 ports (Gig1 and 2) connected to the core switch. I have noticed the following 2 error message occur on all 6 switches

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Based on the configuration BPDU and the path cost of the root port, the device calculates a designated port configuration BPDU for each of the rest ports.

H3C Switch Command Mastery: Streamlined Configuration

This article provides a hands-on guide to 50+ essential H3C switch commands, revealing hidden shortcuts and best practices derived from real-world deployments in Fortune 500 ...

H3C S3100-52P COMMAND MANUAL Pdf Download | ManualsLib

Command Manual – MSTP H3C S3100-52P Ethernet Switches Chapter 1 MSTP Configuration Commands port to prevent network storm. A port shut down in this way can only be enabled again by

Spanning Tree Port States, Blocking, Listening, Learning, Forwarding ...

A switch does not enter any of these port states immediately except the blocking state. When the Spanning Tree Protocol (STP) is enabled, every switch in the network starts in the blocking state and

Knowledge Base

Port Mirroring in switches. 12 iii. Switch IRF Upgrade Operation Guide. 25 iv. IRF Replacement. 32 v. Analysis of ACL Priority and Resource Usage. 41 vi. IPv6 Address Classification

Example for Configuring STP

The configuration roadmap is as follows: Configure the STP mode for the switches on the ring network. Configure the root bridge and secondary root bridge. Set a path cost for the ports to

Solved: Interface is blocking by stp

Kindly suggest on this.. Note: In cisco switch default vlan only configured and HPE switch side number of vlans are configured. We have tried both switch uplink port trunk as well as access

H3C Devices CLI Reference

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You can enter a command line quickly by entering incomplete keywords that uniquely identify the complete command. In user view, for example, commands starting with an s include startup saved

H3C S7500 SERIES OPERATION MANUAL Pdf Download | ManualsLib

Operation Manual – MSTP H3C S7500 Series Ethernet Switches Chapter 1 MSTP Configuration upstream switch for a certain period, the switch selects a new root port; the original root port

How to avoid the server connecting port transition to blocking state ...

Hello All, I was working on a task to add a new link to the existing link running between Switch B,C and D. There was a an outage of 2 to 3 minutes for all the servers connecting behind the

What determines STP port blocking?

To some this may be quite simple but I cant seem to find a convincing answer in Odom''s ICND guide. Basically What determines that a port enters the blocking state in a redundant switch

H3C S3100-52P COMMAND MANUAL Pdf Download | ManualsLib

Command Manual – MSTP H3C S3100-52P Ethernet Switches Chapter 1 MSTP Configuration Commands When a port on an MSTP-enabled upstream switch connects with an STP-enabled

H3C/Comware LACP member ports reported as STP blocking

This may lead operators to believe that production links are blocked by STP, although the logical aggregation is forwarding normally and the member ports are actively carrying traffic.

Solved: Interface is blocking by stp

Make sure they are both running the same port mode, (trunk or access) and if a trunk native vlan is the same, we have cisco and HP running fine in our environments but you DO need to

H3C S6300 SERIES TROUBLESHOOTING MANUAL Pdf Download

Page 26 Execute the display stp brief command to verify that STP does not set the state of the port to discarding. When the port is in discarding state, it cannot forward traffic.

Related Video Reference

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