

What to do if the data packets on the core switch are too large

Article Overview

If data packets on a core switch are too large, you should adjust MTU settings, enable TCP MSS clamping, and monitor switch buffers to prevent packet drops and fragmentation.

Diagnose the Issue

Large packets may be dropped if they exceed the Maximum Transmission Unit (MTU) of the switch or network path. Symptoms include small packets transmitting successfully while large transfers fail, or “giant” packet errors on switch interfaces . Use tools like ping with the -M do option to test the maximum packet size that can traverse the network without fragmentation .

Adjust MTU Settings

- Lower the interface MTU to match the path limit: for example, `ip link set eth0 mtu 1450` on Linux or configure the MTU on Cisco switches via global and interface configuration modes .
- Protocol-specific MTU: Adjust MTU for routed interfaces or VPN tunnels to account for overhead (e.g., 1400 bytes for VPNs), .
- Enable TCP MSS clamping if ICMP “Fragmentation Needed” messages are blocked, which prevents Path MTU Discovery from functioning properly. This can be done using iptables: `-j TCPMSS --clamp-mss-to-pmtu` or `--set-mss 1410 ....`

Article Content

Feb 22, 2026

The Problem With Jumbo Frames – OSNexus Official Blog

Also, if you don't have buy-in from your network administrator to enable Jumbo Frames at the switch layer, then full

Jan 22, 2026

Data Packets and Packet Switching

Data Packets and Packet Switching Before transmission, files can be broken up into smaller chunks called data packets. Each

May 13, 2026

A brief look at network performance limiters | Google Cloud Blog

A few months back, we kicked-off Network Performance Decoded, a series of whitepapers sharing best practices for

Jul 10, 2026

MTU size issues, fragmentation, and jumbo frames

To complicate matters, some routers ignore packet-too-big messages and keep sending packets that exceed the

Oct 25, 2025

Duplicate Packets: Are They Good or Bad and Best Practices for

It also matters where you capture monitoring data. If you capture it at the ingress and then again in the core, you may have copied

May 10, 2026

Switch Port

Hi, On a Cisco Catalyst 9200L switch, under the interface connected to a modern Access Point, I'm observing some

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NETWORK ENGINEER STUFF: Troubleshooting Packet Drops in a

When packets are getting dropped on a switch, it can result from various issues across different layers. Here's a

Mar 27, 2026

Troubleshoot Dropping of Packets Due to Higher MTU (Oversize Packet)

Packets in any network may have higher MTU than the default size of 1518 bytes. This may cause the packets to be

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Understanding Packet Errors, Packet Discards, and Packet Loss in ...

Move up to the data link layer (duplex, VLANs, switching), then Evaluating routing, queuing, and application behavior.

Sep 21, 2025

CBS220: Reporting Oversized Packets on all Trunk ports

Hi I just got this CBS220-24T-4G V02 a hand full of weeks ago and I'm struggling a bit with this device. My today's

Jul 30, 2025

How network devices are sending the actual packets?

How switch will send these packets out of the same egress interface? The minimum physical data is bit, so will switch

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NETWORK ENGINEER STUFF: Troubleshooting Packet Drops in a Switch

Troubleshooting Packet Drops in a Switch When packets are getting dropped on a switch, it can result from various

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How Can the Packet Size Be Greater than the MTU?

So you've got a problem and you decide to fire up Wireshark and take a capture. When you look at the packets you see a bunch of

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Zyxel Switch

Most likely cause: limitation in the macOS network stack or adapter driver. Always test your real payload limits; don't blindly set MTU

Dec 28, 2025

Guidance on the use of jumbo frames

If you increase the MTU on one of your end devices, your switch must be able to pass these larger frames (same

Jun 03, 2026

How to Fix MTU-Related Connectivity Problems (Packet Too Large)

Learn how to diagnose and fix MTU-related connectivity issues where large packets are silently dropped, causing

Jul 02, 2026

2 layer switch how to handle the datagram bigger than MTU

If on an environment I can't control, for example internet, if a path has a switch with no standard size (for example

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Packet loss

Packet loss directly reduces throughput for a given sender as some sent data is never received and can't be counted as throughput.

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Network Switch Buffer Testing

Before you purchase a new network switch or router, we recommend running some tests to ensure the device has

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What happens if a switch loses too many packets consistently?

This really doesn't answer the question, "what happens if a switch loses too much packets", consider explaining what

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Controlling IP Fragmentation for Path MTU Discovery

To do this, a QUIC stack can occasionally send a larger packet and observe whether it is acknowledged by the

Sep 01, 2025

Understanding Switch Buffer Bloat: The Hidden Network Performance ...

Buffer Overaccumulation: If the buffer is too large, the switch keeps storing packets instead of dropping them, hoping

Jun 17, 2026

Network Switch Buffer Size Explained

Discover how switch buffer size and memory impact industrial network performance. Learn how to choose the right

Sep 13, 2025

Understanding and Troubleshooting Discards Packets | wiki.blesk.ca

It simply doesn't have the capacity to keep up with the output. Different switch's interfaces have different hardware buffer lengths.

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MTU Configuration Guide

Modify the Maximum Transmission Unit (MTU) settings for optimized network performance. MTU defines the largest

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Packet switching

Packet switching Transmissions close transmissionsThe sending of data from point A to point B. over a network close networkA

Contact Us

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