

Core Switch MAC Table Capacity



Article Overview

Core switches typically support MAC address tables ranging from tens of thousands to over a million entries, depending on the platform and model.

Overview of MAC Table Capacity

A MAC address table (also called a CAM table) stores the mapping between MAC addresses and switch ports, enabling efficient Layer 2 forwarding and reducing unnecessary broadcast traffic. The size of this table is crucial for core switches, which aggregate traffic from many access and distribution switches in large networks.

- Small to mid-range switches: Often support 8K to 32K MAC addresses, suitable for smaller campus or industrial networks.
- Enterprise distribution/core switches: High-end models like Cisco Catalyst 3850 or Nexus series can support tens of thousands to hundreds of thousands of MAC addresses, depending on configuration and hardware.
- Carrier-grade or high-scale switches: Platforms such as Juniper EX or QFX series can support up to 1,048,575 MAC addresses, providing ample capacity for very large networks.

Factors Affecting MAC Table Requirements

- Number of connected devices: Each host, VoIP phone, or virtual machine contributes a MAC entry. For example, a campus with 5,000 users and two devices per user may require 10,000 MAC entries at minimum.
- VLANs and trunking: Multiple VLANs increase the number of MAC entries because...

Article Content

Oct 15, 2025

MAC Address Table Configuration Commands

The capacity of the MAC address table on a low-end device is small; therefore, set a relatively short aging time on low end devices to

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Switch behavior when MAC table full

A question for the experts: If the MAC table of a switch is running full, will the switch then be unable to learn new MAC

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Campus LAN Core and Distribution Switches

Cisco Catalyst and Meraki Campus LAN core and distribution switches are scalable, secure network switches with exceptional

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MAC Address Tables on Cisco Switches: How Frames Find the Right

When that happens, I stop guessing and look at the MAC address table. On Cisco switches it's the practical truth of Layer 2: it's

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Solved: mac-address-table size problem

To confirm the size of the table run the following command: show mac-address-table count You mention that you

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The Core of Switching: How MAC Address Tables Enable Efficient

This article delves into the mechanics of MAC address tables, exploring their structure, learning mechanisms, and

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Cisco Sup8-E ip routing table / Mac Address table current utilization

Hi to All, I need to calculate the current memory usage about the ip routing table, we use static routes and OSPF. And

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Navigating MAC Address Tables: The Heart of Networking

Importance of MAC Address Tables The relevance of MAC address tables lies in their pivotal role, enhancing the

Nov 27, 2025

How many mac-addresses a single port can store ?

11-24-2013 10:28 PM How many mac-addresses a single port can store ? And also what is the max limit for mac-addresses on a

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What's the limit of a home router's MAC address table?

I am considering creating a large LAN (possibly greater than 255 computers) using home wireless routers such as Linksys WRT54G

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Understanding the Cisco MAC Address Table: A Beginner's Guide

When a data packet arrives at a switch, the switch checks the packet's destination MAC address against its MAC

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Core Switch vs. Distribution Switch vs. Access Switch

As the core switches are responsible for routing and switching a high amount of data, the forwarding capacity of the switches must be

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mac-table-size | Junos OS | Juniper Networks

Modify the size of the MAC address table for the bridge domain or VLAN, a set of bridge domains or VLANs associated with a trunk

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Cisco Catalyst 9600 Series Switches Data Sheet

The following table lists the ordering information for chassis, power supplies, supervisor engines, line cards, and accessories that are

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How Switches Work: MAC Address Table Explained

See how a switch builds its MAC address table: source-MAC learning, aging, unicast forwarding, and unknown

May 06, 2026

Troubleshooting MAC Address Table Size 16K 32K: Optical Interfaces ...

In B2B networking, the MAC address table size—typically 16K or 32K entries—determines how many unique devices

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8K mac address table. What for? : r/networking

8K mac address table. What for? Maybe this will sound like a silly question to some of you but I have been studying for CCNA exam

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The Core of Switching: How MAC Address Tables Enable Efficient

Conclusion The MAC address table is the unsung hero of network switching, enabling precise, high-speed data

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MAC Address Tables In Switch For Network Data Forwarding

Find out MAC Address Tables power network switches. Explaining how switches construct and use this table to

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CAM table size

There is more than enough memory to store up to 16,000 MAC address in the bridge (forwarding) table on Catalyst

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Mac address tables filling up on end switches

We have an odd problem on our network where our mac-address tables on our endpoint switches are filling up very

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Switch MAC Table

However, isn't the line "Total MAC Addresses Available: 98304" from the output of the command "show mac address-table count" the

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How to best mitigate a switch mac-address limitation

The problem with this is that drives up CPU, and the switch then spends more time managing its mac-table than forwarding traffic to

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Understanding the Cisco MAC Address Table: A Beginner's Guide

Final Thoughts on the Importance of the Cisco MAC Address Table The role of the Cisco MAC address table in

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MAC Address Table On a Cisco Switches

Two different types of entries are possible in the MAC address table: Static: The switch administrator must manually

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Cisco Nexus 9000 Series NX-OS Verified Scalability Guide, Release

The tables in this section list the verified scalability limits for the Cisco Nexus 9000 Series switches for Cisco NX-OS

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Nexus 7000 F2/F2e: Understand and Mitigate MAC Table Full Issues

The MAC table will look like this, where MAC address is synced between FEs even though the vlan is pruned. This is because

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MAC address table size

In my last job, our Enterprise network had about 100K users and about 5K Enterprise network devices. Locations

Dec 10, 2025

Cisco IOS 15.0SY

Cisco IOS 15.0SY - Retirement Notification The Cisco IOS 15.0SY has been retired and is no longer supported. End

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Understanding Maximum MAC Address Table Size

The maximum MAC address table size refers to the total number of MAC address entries a switch can store simultaneously. This is a

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Industrial Switch MAC Address Table Size: Why It Matters

When selecting an industrial switch, carefully consider the appropriate MAC address table size for your specific network

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MAC Address Table Calculator

The hardware MAC address table size of the switch. Exceeding this limit causes unknown unicast flooding, degrading performance

Contact Us

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