ARP Optimization

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The ARP Optimization feature improves Address Resolution Protocol (ARP) performance by reducing the ARP searching time by using an improved data structure. Previously, the ARP table was organized for easy searching on an entry based on the IP address. However, there are cases, such as interface flapping on the device and a topology change in the network, where all related ARP entries must be refreshed for correct forwarding. This situation could consume a substantial amount of CPU time in the ARP process to search and clean up all the entries. Use the **clear arp interface** command to clear the entire ARP cache on an interface.

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Information About ARP Optimization

Benefits of ARP Optimization

The ARP Optimization feature improves Address Resolution Protocol (ARP) performance by reducing the ARP searching time by using an improved data structure. Previously, the ARP table was organized for easy

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searching on an entry based on the IP address. However, there are cases, such as interface flapping on the device and a topology change in the network, where all related ARP entries must be refreshed for correct forwarding. This situation could consume a substantial amount of CPU time in the ARP process to search and clean up all the entries. Use the **clear arp interface** command to clear the entire ARP cache on an interface.

How to Configure ARP Optimization

Clearing the ARP Cache

Perform the following tasks to clear the Address Resolution Protocol (ARP) cache of entries associated with an interface and to clear all dynamic entries from the ARP cache, the fast-switching cache, and the IP route cache.

SUMMARY STEPS

1. **enable**
2. **clear arp interface** *type number*
3. **clear arp-cache**
4. **exit**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. - Enter your password if prompted.
Step 2	**clear arp interface** *type number* **Example:** `Device# clear arp interface Gigabitethernet0/0/0`	Clears the entire ARP cache on the interface.
Step 3	**clear arp-cache** **Example:** `Device# clear arp-cache`	Clears all dynamic entries from the ARP cache, the fast-switching cache, and the IP route cache.

	Command or Action	Purpose
Step 4	**exit** **Example:** `Device# exit`	Returns to user EXEC mode.

Configuration Examples for ARP Optimization

- [Examples: Clearing the ARP Cache, page 3](#)

Examples: Clearing the ARP Cache

The following example shows how to clear all entries in the ARP cache associated with an interface:

`Device# ` **`clear arp interface gigabitethernet0/0/0`**

The following example shows how to clear all dynamic entries in the ARP cache:

`Device# ` **`clear arp-cache`**

Additional References

Related Documents

Related Topic	Document Title
Cisco IOS commands	*Cisco IOS Master Command List, All Releases*
ARP commands	*Cisco IOS IP Addressing Services Command Reference*

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for ARP Optimization

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

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Table 1   *Feature Information for ARP Optimization*

Feature Name	Releases	Feature Information
ARP Optimization	12.2(15)T 15.0(1)S Cisco IOS XE Release 2.1 Cisco IOS XE Release 3.2SE	The ARP Optimization feature improves Address Resolution Protocol (ARP) performance by reducing the ARP searching time by using an improved data structure. Previously, the ARP table was organized for easy searching on an entry based on the IP address. However, there are cases, such as interface flapping on the device and a topology change in the network, where all related ARP entries must be refreshed for correct forwarding. This situation could consume a substantial amount of CPU time in the ARP process to search and clean up all the entries. Use the **clear arp interface** command to clear the entire ARP cache on an interface. The following command was introduced or modified: **clear arp interface**.