

IPv6 Virtual Fragmentation Reassembly

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Information About IPv6 Virtual Fragmentation Reassembly

IPv6 Virtual Fragmentation Reassembly

Fragmentation is a process of breaking down an IP datagram into smaller packets to be transmitted over different types of network media. Non-initial fragments of a fragmented IPv6 packet is used to pass through IPsec and NAT64 without any examination due to the lack of the L4 header, which usually is only available on the initial fragment. The IPv6 Virtual Fragmentation Reassembly (VFR) feature provides the ability to collect the fragments and provide L4 info for all fragments for IPsec and NAT64 features.

How to Implement IPv6 Virtual Fragmentation Reassembly

Configuring IPv6 Virtual Fragmentation Reassembly

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface** *type number*
4. ipv6 virtual-reassembly [**in** | **out**] [**max-reassemblies** *maxreassemblies*] [**max-fragments** *max-fragments*] [**timeout** *seconds*] [**drop-fragments**
5. **exit**
6. show ipv6 virtual-reassembly interface *interface-type*
7. show ipv6 virtual-reassembly features interface *interface-type*

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**interface** *type number* **Example:** `Router(config)# interface gigabitethernet 3/1/1`	Specifies an interface type and number, and places the router in interface configuration mode.
Step 4	ipv6 virtual-reassembly [**in** | **out**] [**max-reassemblies** *maxreassemblies*] [**max-fragments** *max-fragments*] [**timeout** *seconds*] [**drop-fragments** **Example:** `Router(config-if)# ipv6 virtual-reassembly max-reassemblies 32 max-fragments 4 timeout 7`	Enables VFR on an interface.
Step 5	**exit** **Example:** `Router(config-if)# exit`	Exits interface configuration mode and places the router in global configuration mode. • Enter this command twice to reach privileged EXEC mode.
Step 6	show ipv6 virtual-reassembly interface *interface-type* **Example:** `Router# show ipv6 virtual-reassembly interface e1/1/1`	Displays VRF configuration and statistical information on a specific interface.
Step 7	show ipv6 virtual-reassembly features interface *interface-type* **Example:** `Router# show ipv6 virtual-reassembly features`	Displays VFR information on all interfaces or on a specified interface.

Configuration Example for IPv6 Virtual Fragmentation Reassembly

Example: Configuring IPv6 Virtual Fragmentation Reassembly

```
Router# show ipv6 virtual-reassembly interface gigabitethernet1/1/1
GigabitEthernet1/1/1:
IPv6 Virtual Fragment Reassembly (VFR) is ENABLED(in)
Concurrent reassemblies (max-reassemblies): 64
Fragments per reassembly (max-fragments): 16
Reassembly timeout (timeout): 3 seconds
Drop fragments: OFF
Current reassembly count: 0
Current fragment count: 0
Total reassembly count: 6950
Total reassembly timeout count: 9
GigabitEthernet1/1/1:
IPv6 Virtual Fragment Reassembly (VFR) is ENABLED(out)
Concurrent reassemblies (max-reassemblies): 64
Fragments per reassembly (max-fragments): 16
Reassembly timeout (timeout): 3 seconds
Drop fragments: OFF
Current reassembly count: 0
Current fragment count: 0
Total reassembly count: 0
Total reassembly timeout count: 0
```

Additional References

Related Documents

Related Topic	Document Title
IPv6 addressing and connectivity	*IPv6 Configuration Guide*
Cisco IOS commands	*Master Commands List, All Releases*
IPv6 commands	*IPv6 Command Reference*
Cisco IOS IPv6 features	*IPv6 Feature Mapping*

Standards and RFCs

Standard/RFC	Title
RFCs for IPv6	*IPv6 RFCs*

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 IPv6 Virtual Fragmentation Reassembly

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.

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.

Table 1: Feature Information for IPv6 Virtual Fragmentation Reassembly

Feature Name	Releases	Feature Information
IPv6 Virtual Fragmentation Reassembly	Cisco IOS XE Release 3.4S	The IPv6 VFR feature provides the ability to collect the fragments and provide L4 info for all fragments for IPsec and NAT64 features.