Contents

1 Configuring DHCPv6 Client

1.1 Introduction

1.1.1 Overview

The Dynamic Host Configuration Protocol for IPv6 (DHCPv6) is used to assign IPv6 addresses, IPv6 prefixes, and other network configuration parameters to client hosts.

When a device serves as a DHCPv6 client, the device can:

- Obtain an IPv6 address and network configuration parameters by using DHCPv6. The IPv6 address is used as the address of an interface on which the DHCPv6 Client function is enabled.

- Obtain an IPv6 prefix and network configuration parameters by using DHCPv6. The IPv6 prefix is used by the device to generate an IPv6 address.

- Obtain an IPv6 address, IPv6 prefix, and network configuration parameters by using DHCPv6. The IPv6 address is used as the address of an interface on which the DHCPv6 Client function is enabled, and the IPv6 prefix is used by the device to generate an IPv6 address.

- Obtain network configuration parameters except the IPv6 address and prefix through DHCPv6 stateless configuration.

1.1.2 Principles

DHCPv6 is a protocol based on the client/server model. For details about interaction between a DHCPv6 client and a DHCPv6 server, see "Configuring DHCPv6."

1.1.3 Protocols and Standards

- RFC 3315: Dynamic Host Configuration Protocol for IPv6

- RFC 3633: IPv6 Prefix Options for Dynamic Host Configuration Protocol (DHCP) Version 6

- RFC 3646: DNS Configuration Options for Dynamic Host Configuration Protocol for IPv6 (DHCPv6)

- RFC 3736: Stateless DHCP Service for IPv6

- RFC 5417: Control And Provisioning of Wireless Access Points (CAPWAP) Access Controller DHCP Option

1.2 Restrictions and Guidelines

You are advised not to enable both the DHCPv6 Client and DHCPv6 Server functions or both the DHCPv6 Client and DHCPv6 Relay functions on the same interface. Otherwise, the functions may be abnormal.

1.3 Configuring DHCPv6 Client to Request an IPv6 Address

1.3.1 Overview

Configure a device as a DHCPv6 client to automatically request an IPv6 address or related parameters from a DHCPv6 server.

1.3.2 Restrictions and Guidelines

The DHCPv6 Client function can be configured only on L3 interfaces.

1.3.3 Procedure

(1) Enter the privileged EXEC mode.

enable

(2) Enter the global configuration mode.

configure terminal

(3) Enter the interface configuration mode.

interface *interface-type interface-number*

(4) Enable the DHCPv6 Client function and request an identity association non-temporary address (IA_NA) address.

ipv6 dhcp client ia [**rapid-commit**]

IA_NA address requesting is disabled by default.

(5) (Optional) Configure the stateless service.

ipv6 nd other-config-flag

The stateless service is not configured by default.

1.4 Configuring DHCPv6 Client to Request an IPv6 Prefix

1.4.1 Overview

Configure a device as a DHCPv6 client to automatically request an IPv6 prefix or related parameters from a DHCPv6 server.

1.4.2 Restrictions and Guidelines

The DHCPv6 Client function can be configured only on L3 interfaces.

1.4.3 Procedure

(1) Enter the privileged EXEC mode.

enable

(2) Enter the global configuration mode.

configure terminal

(3) Enter the interface configuration mode.

interface *interface-type interface-number*

(4) Enable the DHCPv6 Client function to request an IPv6 prefix.

ipv6 dhcp client pd *prefix-name* [**rapid-commit**]

Address prefix requesting is not configured by default.

1.5 Monitoring

Run the **show** command to check the running status of a configured function to verify the configuration effect.

Run the **debug** command to outputting debugging information.

> ⚠ **Caution**

The output debugging information occupies system resources. Therefore, disable the debugging function immediately after use.

Run the **clear** command to clear information.

> ⚠ **Caution**

Running the **clear** commands may lose vital information and thus interrupt services.

Table 1-1   Monitoring

Command	Purpose
clear ipv6 dhcp client *interface-type interface-number*	Restarts the DHCPv6 Client function.
show ipv6 dhcp	Displays the DHCP Unique Identifier (DUID) of a device.
show ipv6 dhcp interface [*interface-type interface-number*]	Displays DHCPv6 interfaces.
debug ipv6 dhcp [**detail**]	Debugs DHCPv6.
debug ipv6 dhcp client	Debugs a DHCPv6 client.