# IPv6 DAD Proxy

IPv6 Duplicate Address Detection (DAD) Proxy feature responds to the DAD queries on behalf of a node that owns the queried address. It is useful in environments where nodes cannot communicate directly on the link.



## 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.

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.

## Restrictions for IPv6 DAD Proxy

- The IPv6 Duplicate Address Detection (DAD) Proxy feature is not supported on Etherchannel ports.

# Information About IPv6 DAD Proxy

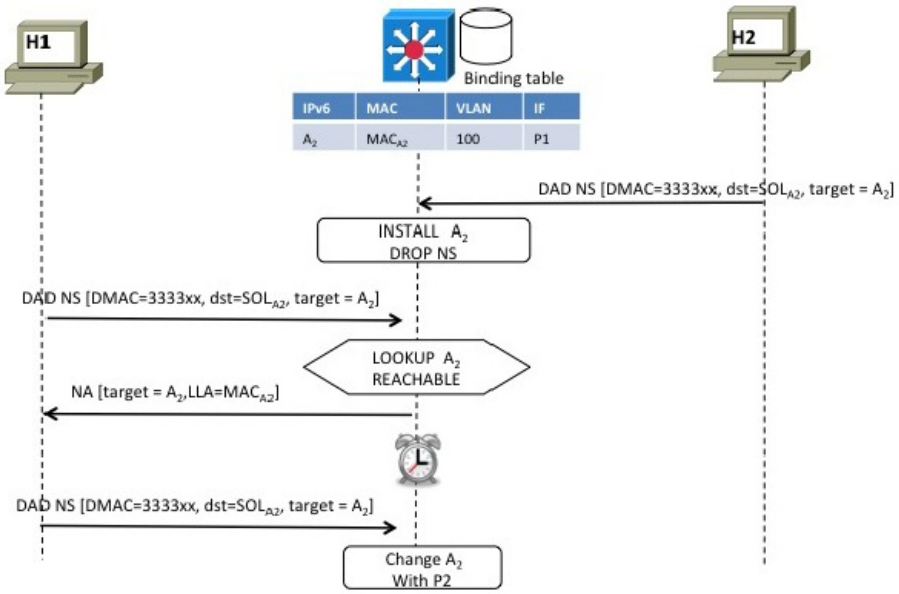
## Overview of IPv6 DAD Proxy

The IPv6 Duplicate Address Detection (DAD) feature ensures that all the IP addresses assigned on a particular segment are unique. The process operates when IPv6 hosts directly communicate with one another where hosts cannot communicate directly, and a proxy is required.

After a host verifies that its address is unique, it enables the DAD procedure. However, when two hosts cannot communicate with each other, this procedure cannot detect a duplicate address. If the DAD procedure cannot run, both the hosts assigns the same link-local address, which causes both hosts to fail when they try to reach the Dynamic Host Configuration Protocol version 6 (DHCPv6 )server. The IPv6 DAD Proxy feature responds on behalf of the address owner when an address is in use.

The following figure provides an overview of the IPv6 DAD Proxy feature:

***Figure 1: IPv6 DAD Proxy***

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# How to Configure IPv6 DAD Proxy

## Configuring IPv6 DAD Proxy

### SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface** *type number*
4. **[no] ipv6 nd dad-proxy**
5. **end**

### DETAILED STEPS

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **enable**<br><br>**Example:**<br>`Device> enable` | Enables privileged EXEC mode.<br>• Enter your password if prompted. |
| **Step 2** | **configure terminal**<br><br>**Example:**<br>`Device# configure terminal` | Enters global configuration mode. |
| **Step 3** | **interface** *type number*<br><br>**Example:**<br>`Device(config)# interface GigabitEthernet 0/0/1` | Specifies an interface type and number, and enters interface configuration mode. |
| **Step 4** | **[no] ipv6 nd dad-proxy**<br><br>**Example:**<br>`Device(config-if)# ipv6 nd dad-proxy` | Specifies if the ND suppress must operate in DAD-proxy mode.<br>In this mode, the DAD messages are not forwarded. They respond to an existing entry or are added to the binding table. |
| **Step 5** | **end**<br><br>**Example:**<br>`Device(config-if)# end` | Exits router interface configuration mode and returns to privileged EXEC mode. |

# Configuration Examples for IPv6 DAD Proxy

## Example: Configuring IPv6 DAD Proxy

```
Device> enable
Device# configure terminal
Device(config)# interface Ethernet 0/0
Device(config-if)# ipv6 nd dad-proxy
Device(config-if)# end
```

# Additional References for IPv6 DAD Proxy

### Related Documents

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

### MIBs

| MIB | MIBs Link |
|---|---|
| | To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:<br>http://www.cisco.com/go/mibs |

### 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 DAD Proxy

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 DAD Proxy***

| Feature Name | Releases | Feature Information |
|---|---|---|
| IPv6 DAD Proxy | Cisco IOS XE Release 3.8S<br>Cisco IOS XE Release 3SE<br>Cisco IOS XE Release 3.9S | IPv6 Duplicate Address Detection (DAD) Proxy feature responds to the DAD queries on behalf of a node that owns the queried address. It is useful in environments where nodes cannot communicate directly on the link.<br>The following commands were introduced or modified: **ipv6 nd dad-proxy**, **mode dad-proxy**, **mode md-proxy**. |