# Configuring IPv6 Mobility


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# Pre-requisites for IPv6 Mobility

The mobility and its related infrastructure must be configured and ready for use.

# Information About IPv6 Mobility

Mobility, or roaming, is a wireless LAN client's ability to maintain its association seamlessly from one access point to another securely and with as little latency as possible. This section explains how mobility works whendevice are included in a wireless network.

When a wireless client associates and authenticates to an access point, the access point's device places an entry for that client in its client database. This entry includes the client's MAC and IP addresses, security context and associations, quality of service (QoS) contexts, the WLAN, and the associated access point. The device uses this information to forward frames and manage traffic to and from the wireless client.

When the wireless client moves its association from one access point to another, the device simply updates the client database with the newly associated access point. If necessary, new security context and associations are established as well. The process becomes more complicated, however, when a client roams from an access point joined to one device to an access point joined to a different device. It also varies based on whether thedevice are operating on the same subnet.

## Inter Controller Roaming

When the client associates to an access point joined to a new device, the new device exchanges mobility messages with the original device, and the client database entry is moved to the new device if sticky anchoring is disabled.

### Related Topics

Monitoring IPv6 Mobility, on page 2

## Intra Subnet Roaming with Sticky Anchoring, and Inter Subnet Roaming

Inter-subnet roaming is similar to inter-controller roaming in that the device exchange mobility messages on the client roam. However, instead of moving the client database entry to the new device, the original device marks the client with an "Anchor" entry in its own client database. The database entry is copied to the new device client database and marked with a "Foreign" entry in the new device. The roam remains transparent to the wireless client, and the client maintains its original IP address.

In inter-subnet roaming, WLANs on both anchor and foreign device need to have the same network access privileges and no source-based routing or source-based firewalls in place. Otherwise, the clients may have network connectivity issues after the handoff.

For more information on configuring mobility see, the Cisco 5700 Wireless LAN Controller Mobility Configuration Guide, Cisco IOS XE, Release 3.2SE.

### Related Topics

Monitoring IPv6 Mobility, on page 2

# How to Configure IPv6 Mobility

# Monitoring IPv6 Mobility

This chapter displays the mobility related IPv6 configuration. To see the mobility related configurations refer to the Cisco 5700 Wireless LAN Controller Mobility Configuration Guide, Cisco IOS XE 3.2SE.

### SUMMARY STEPS

1. **show ipv6 neighbors binding mac** `C0C1.C06B.C4E2`

### DETAILED STEPS

| | Command or Action | Purpose |
|---|---|---|
| **Step 1** | **show ipv6 neighbors binding mac** `C0C1.C06B.C4E2`<br>**Example:**<br>`Device# show ipv6 neighbors binding mac C0C1.C06B.C4E2` | Displays the IPv6 related mobility configurations. |

### Example

```
Device# show ipv6 neighbors binding mac C0C1.C06B.C4E2
Binding Table has 45 entries, 37 dynamic (limit 100)
Codes: L - Local, S - Static, ND - Neighbor Discovery, DH - DHCP, PKT - Other Packet, API
- API created
Preflevel flags (prlvl):
0001:MAC and LLA match     0002:Orig trunk            0004:Orig access
```

```
0008:Orig trusted trunk    0010:Orig trusted access   0020:DHCP assigned
0040:Cga authenticated     0080:Cert authenticated    0100:Statically assigned


    IPv6 address                              Link-Layer addr Interface vlan prlvl  age
state    Time left
L   FE80:20:25::16                           2037.064C.BA71  Vl25        25  0100 3137mn
REACHABLE
L   FE80:20:24::16                           2037.064C.BA41  Vl24        24  0100 3137mn
REACHABLE
L   FE80:20:23::16                           2037.064C.BA44  Vl23        23  0100 3137mn
REACHABLE
ND  FE80:20:23::13                           2037.0653.6BC4  Te1/0/1     23  0005   85s
REACHABLE  223 s try 0
ND  FE80:20:22::17                           2037.064D.06F6  Te1/0/1     22  0005    3mn
REACHABLE  92 s try 0
L   FE80:20:22::16                           2037.064C.BA76  Vl22        22  0100 3137mn
REACHABLE
ND  FE80:20:22::13                           2037.0653.6BF6  Te1/0/1     22  0005  165s
REACHABLE  136 s try 0
ND  FE80:20:22::12                           2037.064C.94F6  Te1/0/1     22  0005   23s
REACHABLE  281 s try 0
ND  FE80:20:22::2                            0022.550E.8FC3  Te1/0/1     22  0005   18s
REACHABLE  295 s try 0
ND  FE80:20:21::17                           2037.064D.06E8  Te1/0/1     21  0005    4mn
REACHABLE  60 s try 0
L   FE80:20:21::16                           2037.064C.BA68  Vl21        21  0100 3137mn
REACHABLE
ND  FE80:20:21::13                           2037.0653.6BE8  Te1/0/1     21  0005   57s
REACHABLE  252 s try 0
ND  FE80:20:21::12                           2037.064C.94E8  Te1/0/1     21  0005    4s
REACHABLE  297 s
ND  FE80:20:21::2                            0022.550E.8FC2  Te1/0/1     21  0005    2s
REACHABLE  307 s try 0
ND  FE80::F866:8BE0:12E4:39CF                C0C1.C06B.C4E2  Ca4         21  0005    3mn
REACHABLE  89 s try 0
ND  FE80::6D0A:DB33:D69E:91C7                0050.B606.A6CE  Te1/0/1     22  0005  135s
REACHABLE  171 s try 0
ND  FE80::985:8189:9937:BB05                 8CA9.8295.09CC  Ca0         21  0005   15s
REACHABLE  287 s
ND  FE80::20:24:13                           2037.0653.6BC1  Te1/0/1     24  0005  155s
REACHABLE  145 s try 0
L   2001:20:23::16                           2037.064C.BA44  Vl23        23  0100 3137mn
REACHABLE
DH  2001:20:22:0:C96C:AF29:5DDC:2689         0050.B606.A6CE  Te1/0/1     22  0024   19s
REACHABLE  286 s try 0(16574
DH  2001:20:22:0:A46B:90B2:F0DB:F952         0050.B606.A6CE  Te1/0/1     22  0024 2339mn
STALE      32401 s
DH  2001:20:22:0:7DFD:14EC:B1E4:1172         0050.B606.A6CE  Te1/0/1     22  0024 2339mn
STALE      24394 s
DH  2001:20:22:0:7CB3:D6DD:FD6A:50F          0050.B606.A6CE  Te1/0/1     22  0024 2333mn
STALE      29195 s
DH  2001:20:22:0:6D32:AF24:FDE1:2504         0050.B606.A6CE  Te1/0/1     22  0024  509mn
STALE      118821 s
DH  2001:20:22:0:5106:5AD:FE98:A2F0          0050.B606.A6CE  Te1/0/1     22  0024 2328mn
STALE      31362 s
ND  2001:20:22::201:13                       0050.B606.A6CE  Te1/0/1     22  0005   49s
REACHABLE  264 s try 0
L   2001:20:22::16                           2037.064C.BA76  Vl22        22  0100 3137mn
REACHABLE
ND  2001:20:22::13                           2037.0653.6BF6  Te1/0/1     22  0005  175s
REACHABLE  131 s try 0
ND  2001:20:22::2                            0022.550E.8FC3  Te1/0/1     22  0005   28s
REACHABLE  274 s try 0
```

```
ND  2001:20:21:0:F866:8BE0:12E4:39CF        C0C1.C06B.C4E2  Ca4         21  0005    4mn
REACHABLE  21 s try 0
ND  2001:20:21:0:C085:9D4C:4521:B777        0021.CC73.AA17  Te1/0/1     21  0005   11s
REACHABLE  290 s try 0
ND  2001:20:21:0:6233:4BFF:FE1A:744C        6033.4B1A.744C  Ca4         21  0005    3mn
REACHABLE  108 s try 0
ND  2001:20:21:0:447E:745D:2F48:1C68        8CA9.8295.09CC  Ca0         21  0005   34s
REACHABLE  276 s
ND  2001:20:21:0:3920:DDE8:B29:AD51         C0C1.C06B.C4E2  Ca4         21  0005    3mn
REACHABLE  87 s try 0
ND  2001:20:21:0:1016:A333:FAD5:6E66        0021.CC73.AA17  Te1/0/1     21  0005    4mn
REACHABLE  18 s try 0
ND  2001:20:21:0:C42:E317:BA9B:EB17         6033.4B1A.744C  Ca4         21  0005    4mn
REACHABLE  61 s try 0
ND  2001:20:21:0:985:8189:9937:BB05         8CA9.8295.09CC  Ca0         21  0005  135s
REACHABLE  173 s try 0
ND  2001:20:21::201:20                      0021.CC73.AA17  Te1/0/1     21  0005    4mn
REACHABLE  43 s try 0
ND  2001:20:21::17                          2037.064D.06E8  Te1/0/1     21  0005    4mn
REACHABLE  50 s try 0
L   2001:20:21::16                          2037.064C.BA68  Vl21        21  0100 3137mn
REACHABLE
ND  2001:20:21::13                          2037.0653.6BE8  Te1/0/1     21  0005   67s
REACHABLE  237 s try 0
ND  2001:20:21::12                          2037.064C.94E8  Te1/0/1     21  0005    5mn
REACHABLE  512 ms try 0
ND  2001:20:21::2                           0022.550E.8FC2  Te1/0/1     21  0005   12s
REACHABLE  294 s try 0
```

### Related Topics

Inter Controller Roaming, on page 1
Intra Subnet Roaming with Sticky Anchoring, and Inter Subnet Roaming, on page 2

# Additional References

### Related Documents

| Related Topic | Document Title |
|---|---|
| IPv6 command reference | *IPv6 Command Reference (Catalyst 3850 Switches)* |
| Mobility configurations | *Mobility Configuration Guide, Cisco IOS XE Release 3SE (Catalyst 3850 Switches)* |

### Error Message Decoder

| Description | Link |
|---|---|
| To help you research and resolve system error messages in this release, use the Error Message Decoder tool. | https://www.cisco.com/cgi-bin/Support/Errordecoder/index.cgi |

### MIBs

| MIB | MIBs Link |
|---|---|
| All supported MIBs for this release. | 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 website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.<br>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.<br>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password. | http://www.cisco.com/support |

# Feature Information for IPv6 Mobility

This table lists the features in this module and provides links to specific configuration information:

| Feature | Release | Modification |
|---|---|---|
| IPv6 Mobility Functionality | Cisco IOS XE 3.2SE | This feature was introduced. |