Configuring IPv6 Mobility

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 whencontroller are included in a wireless network.

When a wireless client associates and authenticates to an access point, the access point's controller 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 controller 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 controller 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 controller to an access point joined to a different controller. It also varies based on whether thecontroller are operating on the same subnet.

Inter Controller Roaming

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

Related Topics

Intra Subnet Roaming with Sticky Anchoring, and Inter Subnet Roaming

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

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`**
	
	Example:
	
	`Controller# show ipv6 neighbors binding mac`
	`C0C1.C06B.C4E2`
		Displays the IPv6 related mobility configurations.

Example

```
Controller# 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

Additional References

Related Documents

Related Topic	Document Title
IPv6 command reference	*IPv6 Command Reference (Catalyst 3850 Switches)IPv6 Command Reference (Cisco WLC 5700 Series)IPv6 Command Reference (Catalyst 3650 Switches)*
Mobility configurations	*Mobility Configuration Guide, Cisco IOS XE Release 3SE (Cisco WLC 5700 Series)Mobility Configuration Guide, Cisco IOS XE Release 3SE (Catalyst 3850 Switches)Mobility Configuration Guide, Cisco IOS XE Release 3SE (Catalyst 3650 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 the 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: 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. 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. 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 3.2SECisco IOS XE 3.3SECisco IOS XE 3.3SE	This feature was introduced.