CLI Commands

The Cisco Wireless LAN solution command-line interface (CLI) enables operators to connect an ASCII console to the Cisco Wireless LAN Controller and configure the controller and its associated access points.

show Commands

This section lists the **show** commands to display information about your mobility configuration settings.

show advanced client-handoff

To display the number of automatic client handoffs after retries, use the **show advanced client-handoff** command.

show advanced client-handoff

Syntax Description

This command has no arguments or keywords.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to display the client auto handoff mode after excessive retries:

```
(Cisco Controller) >show advanced client-handoff
Client auto handoff after retries.............  130
```

show l2tp

To display Layer 2 Tunneling Protocol (L2TP) sessions, use the **show l2tp** command.

show l2tp {**summary** | *ip_address*}

Syntax Description

summary	Displays all L2TP sessions.
ip_address	IP address.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to display a summary of all L2TP sessions:

```
(Cisco Controller) > show l2tp summary
LAC_IPaddr LTid LSid RTid RSid ATid ASid State
---------- ---- ---- ---- ---- ---- ---- -----
```

show logging

To display the syslog facility logging parameters and buffer contents, use the **show logging** command.

show logging

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to display the current settings and buffer content details:

```
(Cisco Controller) >show logging
Logging to buffer :
- Logging of system messages to buffer :
 - Logging filter level..... errors
 - Number of system messages logged..... 67227
 - Number of system messages dropped..... 21136
- Logging of debug messages to buffer ..... Disabled
 - Number of debug messages logged..... 0
 - Number of debug messages dropped..... 0
Logging to console :
- Logging of system messages to console :
 - Logging filter level..... errors
 - Number of system messages logged..... 0
 - Number of system messages dropped..... 88363
- Logging of debug messages to console ..... Enabled
 - Number of debug messages logged..... 0
 - Number of debug messages dropped..... 0
Logging to syslog :
- Syslog facility..... local0
- Logging of system messages to syslog :
 - Logging filter level..... errors
 - Number of system messages logged..... 67227
 - Number of system messages dropped..... 21136
- Logging of debug messages to syslog ..... Disabled
 - Number of debug messages logged..... 0
 - Number of debug messages dropped..... 0
- Number of remote syslog hosts..... 0
  - Host 0..... Not Configured
  - Host 1..... Not Configured
  - Host 2..... Not Configured
Logging of traceback..... Disabled
Logging of process information..... Disabled
Logging of source file informational..... Enabled
Timestamping of messages.....
- Timestamping of system messages..... Enabled
 - Timestamp format..... Date and Time
- Timestamping of debug messages..... Enabled
 - Timestamp format..... Date and Time
 Logging buffer (67227 logged, 21136 dropped)
*Apr 03 09:48:01.728: %MM-3-INVALID_PKT_RECVD: mm_listen.c:5508 Received an invalid
```

```
packet from 1.100.163.51. Source member:0.0.0.0. source member unknown.
*Apr 03 09:47:34.194: %LWAPP-3-DECODE_ERR: spam_lrad.c:1271 Error decoding discovery
request from AP 00:13:5f:0e:d4:20
*Apr 03 09:47:34.194: %LWAPP-3-DISC_OTAP_ERR: spam_lrad.c:5554 Ignoring OTAP discovery
request from AP 00:13:5f:0e:d4:20, OTAP is disabled
Previous message occurred 2 times.
```

show mobility anchor

To display the wireless LAN anchor export list for the Cisco wireless LAN controller mobility groups or to display a list and status of controllers configured as mobility anchors for a specific WLAN or wired guest LAN, use the **show mobility anchor** command.

show mobility anchor [**wlan** *wlan_id* | **guest-lan** *guest_lan_id*]

Syntax Description

wlan	(Optional) Displays wireless LAN mobility group settings.
wlan_id	Wireless LAN identifier from 1 to 512 (inclusive).
guest-lan	(Optional) Displays guest LAN mobility group settings.
guest_lan_id	Guest LAN identifier from 1 to 5 (inclusive).

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

The status field display (see example) shows one of the following values:

- UP—The controller is reachable and able to pass data.
- CNTRL_PATH_DOWN—The mpings failed. The controller cannot be reached through the control path and is considered failed.
- DATA_PATH_DOWN—The epings failed. The controller cannot be reached and is considered failed.
- CNTRL_DATA_PATH_DOWN—Both the mpings and epings failed. The controller cannot be reached and is considered failed.

Examples

The following example shows how to display a mobility wireless LAN anchor list:

```
(Cisco Controller) >show mobility anchor
Mobility Anchor Export List
 WLAN ID     IP Address            Status
 -------     ---------------       ------
 12           192.168.0.15         UP
 GLAN ID     IP Address            Status
 -------     ---------------       -------
 1           192.168.0.9           CNTRL_DATA_PATH_DOWN
```

show mobility ap-list

To display the mobility AP list, use the **show mobility ap-list** command.

show mobility ap-list

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to display the mobility AP list:

```
(Cisco Controller) >show mobility ap-list
AP Name                  AP Radio MAC address     Controller         Learnt From
-----------------------  ----------------------   ---------------    ----------------
AP30e4.dbc5.38ab          b8:62:1f:e5:33:10        9.7.104.10          Self
```

show mobility foreign-map

To display a mobility wireless LAN foreign map list, use the **show mobility foreign-map** command.

show mobility foreign-map wlan *wlan_id*

Syntax Description

wlan	Displays the mobility WLAN foreign-map list.
wlan_id	Wireless LAN identifier between 1 and 512.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to get a mobility wireless LAN foreign map list:

```
(Cisco Controller) >show mobility foreign-map wlan 2
Mobility Foreign Map List
 WLAN ID              Foreign MAC Address               Interface
 -------              -------------------               ---------
   2                   00:1b:d4:6b:87:20                dynamic-105
```

show mobility group member

To display the details of the mobility group members in the same domain, use the **show mobility group member** command.

show mobility group member hash

Syntax Description

hash	Displays the hash keys of the mobility group members in the same domain.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to display the hash keys of the mobility group members:

```
(Cisco Controller) >show mobility group member hash
Default Mobility Domain..................... new-mob

 IP Address      Hash Key
-------------------------------------------------------------

 9.2.115.68      a819d479dcfeb3e0974421b6e8335582263d9169

 9.6.99.10       0974421b6e8335582263d9169a819d479dcfeb3e

 9.7.7.7         feb3e0974421b6e8335582263d9169a819d479dc
```

show mobility oracle

To display the status of the mobility controllers known to the Mobility Oracle (MO) or display the details of the MO client database, use the **show mobility oracle** command.

show mobility oracle {**client** {**detail** | **summary**} | **summary**}

Syntax Description

client	Displays the MO client database.
detail	Displays details pertaining to a client in MO client database.
summary	Displays the summary of the MO database.

Command Default

None

Command History

Release	Modification
7.3.112.0	This command was introduced.

Examples

The following is a sample output of the **show mobility oracle summary** command:

```
(Cisco Controller) >show mobility oracle summary

Number of MCs..................................... 2

IP Address       MAC Address        Link Status        Client Count
---------------  -----------------  -----------------  -------------

9.71.104.10       88:43:e1:7d:fe:00  Control Path Down  0
9.71.104.250      e8:b7:48:a2:16:e0  Up                 2
```

The following is a sample output of the **show mobility oracle client summary** command:

```
(Cisco Controller) >show mobility oracle client summary

Number of Clients................................ 2

MAC Address       Anchor MC             Foreign MC        AssocTime
----------------- --------------------- ----------------- --------------

00:18:de:b0:5c:91 9.72.104.250           -                    0
00:1e:e5:f9:c9:e2 9.72.104.250           -                    0
```

The following is a sample output of the **show mobility oracle client detail** command:

```
(Cisco Controller) >show mobility oracle client detail 00:1e:e5:f9:c9:e2

Client MAC Address : ............................ 00:1e:e5:f9:c9:e2
Client IP address : ............................. 0.0.0.0
Anchor MC IP address : .......................... 9.71.104.250
Anchor MC NAT IP address : ...................... 9.71.104.250
Foreign MC IP address : ......................... -
```

```
Foreign MC NAT IP address : ..................... -
Client Association Time : ....................... 0
Client Entry update timestamp : ................. 1278543135.0
```

show mobility statistics

To display the statistics information for the Cisco wireless LAN controller mobility groups, use the **show mobility statistics** command.

show mobility statistics

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to display statistics of the mobility manager:

```
(Cisco Controller) >show mobility statistics
Global Mobility Statistics
   Rx Errors..................................... 0
   Tx Errors..................................... 0
   Responses Retransmitted....................... 0
   Handoff Requests Received..................... 0
   Handoff End Requests Received................. 0
   State Transitions Disallowed.................. 0
   Resource Unavailable.......................... 0
Mobility Initiator Statistics
   Handoff Requests Sent......................... 0
   Handoff Replies Received...................... 0
   Handoff as Local Received..................... 2
   Handoff as Foreign Received................... 0
   Handoff Denys Received........................ 0
   Anchor Request Sent........................... 0
   Anchor Deny Received.......................... 0
   Anchor Grant Received......................... 0
   Anchor Transfer Received...................... 0
Mobility Responder Statistics
   Handoff Requests Ignored...................... 0
   Ping Pong Handoff Requests Dropped............ 0
   Handoff Requests Dropped...................... 0
   Handoff Requests Denied....................... 0
   Client Handoff as Local....................... 0
   Client Handoff as Foreign  ................... 0
   Client Handoff Inter Group ................... 0
   Anchor Requests Received...................... 0
   Anchor Requests Denied........................ 0
   Anchor Requests Granted....................... 0
   Anchor Transferred............................ 0
```

show mobility summary

To display the summary information for the Cisco WLC mobility groups, use the **show mobility summary** command.

show mobility summary

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

Some WLAN controllers may list no mobility security mode.

Examples

The following is a sample output of the **show mobility summary** command.

```
(Cisco Controller) >show mobility summary

Symmetric Mobility Tunneling (current) .......... Disabled
Symmetric Mobility Tunneling (after reboot) ..... Disabled
Mobility Protocol Port........................... 16666
Mobility Security Mode........................... Disabled
Default Mobility Domain.......................... snmp_gui
Multicast Mode .................................. Disabled
Mobility Domain ID for 802.11r................... 0x66bd
Mobility Keepalive Interval...................... 10
Mobility Keepalive Count......................... 3
Mobility Group Members Configured................ 1
Mobility Control Message DSCP Value.............. 0
Controllers configured in the Mobility Group
MAC Address        IP Address       Group Name         Multicast IP  Status
00:1b:d4:6b:87:20    1.100.163.70     snmp_gui         0.0.0.0        Up
```

The following is a sample output of the **show mobility summary** command with new mobility architecture.

```
(Cisco Controller) >show mobility summary

Mobility Protocol Port........................... 16666
Default Mobility Domain.......................... Mobility
Multicast Mode .................................. Disabled
Mobility Domain ID for 802.11r................... 0xb348
Mobility Keepalive Interval...................... 10
Mobility Keepalive Count......................... 3
Mobility Group Members Configured................ 3
Mobility Control Message DSCP Value.............. 0

Controllers configured in the Mobility Group
 IP Address  Public IP Address  Group Name     Multicast IP  MAC Address
Status
 9.71.106.2  9.72.106.2         Mobility      0.0.0.0      00:00:00:00:00:00  Control and
Data Path Down
```

```
 9.71.106.3  9.72.106.3         Mobility      0.0.0.0      00:00:00:00:00:00  Control and
Data Path Down
 9.71.106.69 9.72.106.69        Mobility      0.0.0.0      68:ef:bd:8e:5f:20          Up
```

show pmipv6 domain

To display the summary information of a PMIPv6 domain, use the **show pmipv6 domain** command.

show pmipv6 domain *domain_name* **profile** *profile_name*

Syntax Description

domain_name	Name of the PMIPv6 domain. The domain name can be up to 127 case-sensitive alphanumeric characters.
profile	Specifies the PMIPv6 profile.
profile_name	Name of the profile associated with the PMIPv6 domain. The profile name can be up to 127 case-sensitive alphanumeric characters.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to display the summary information of a PMIPv6 domain:

```
(Cisco Controller) >show pmipv6 domain floor1 profile profile1
NAI: @example.com
APN: Example
LMA: Examplelma

NAI: *
APN: ciscoapn
LMA: ciscolma
```

show pmipv6 mag bindings

To display the binding information of a Mobile Access Gateway (MAG), use the **show pmipv6 mag binding** command.

show pmipv6 mag bindings [**lma** *lma_name* | **nai** *nai_string*]

Syntax Description

lma	(Optional) Displays the binding details of the MAG to an Local Mobility Anchor (LMA).
lma_name	Name of the LMA. The LMA name is case-sensitive and can be up to 127 alphanumeric characters.
nai	(Optional) Displays the binding details of the MAG to a client.
nai_string	Network Access Identifier (NAI) of the client. The NAI is case-sensitive and can be up to 127 alphanumeric characters. You can use all special characters except a colon.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to display the MAG bindings:

```
(Cisco Controller) >show pmipv6 mag binding
[Binding][MN]: Domain: D1, Nai: MN1@cisco.com
        [Binding][MN]: State: ACTIVE
        [Binding][MN]: Interface: Management
        [Binding][MN]: Hoa: 0xE0E0E02, att: 3, llid: aabb.cc00.c800
        [Binding][MN][LMA]: Id: LMA1
        [Binding][MN][LMA]: lifetime: 3600
        [Binding][MN][GREKEY]: Upstream: 102, Downstream: 1
```

show pmipv6 mag globals

To display the global PMIPv6 parameters of the Mobile Access Gateway (MAG), use the **show pmipv6 mag globals** command.

show pmipv6 mag globals

Syntax Description

This command has no arguments or keywords.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to display the global PMIPv6 parameters of a MAG:

```
(Cisco Controller) >show pmipv6 mag globals
Domain  : D1

MAG Identifier  : M1
        MAG Interface                   : Management
        Max Bindings                    : 10000
        Registration Lifetime           : 3600 (sec)
        BRI Init-delay time             : 1000 (msec)
        BRI Max-delay time              : 2000 (msec)
        BRI Max retries                 : 1
        Refresh time                    : 300 (sec)
        Refresh RetxInit time           : 1000 (msec)
        Refresh RetxMax time            : 32000 (msec)
        Timestamp option                : Enabled
        Validity Window                 : 7
        Peer#1:
                LMA Name: AN-LMA-5K      LMA IP: 209.165.201.10
        Peer#2:
                LMA Name: AN-LMA         LMA IP: 209.165.201.4
        Peer#3:
                LMA Name: AN-LMA         LMA IP: 209.165.201.4
```

show pmipv6 mag stats

To display the statistics of the Mobile Access Gateway (MAG), use the **show pmipv6 mag stats** command.

show pmipv6 mag stats [**domain** *domain_name* **peer** *lma_name*]

Syntax Description

domain	(Optional) Displays the MAG statistics for a Local Mobility Anchor (LMA) in the domain.
domain_name	Name of the PMIPv6 domain. The domain name is case-sensitive and can be up to 127 alphanumeric characters.
peer	(Optional) Displays the MAG statistics for an LMA.
lma_name	Name of the LMA. The LMA name is case sensitive and can be up to 127 alphanumeric characters.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

This table lists the descriptions of the LMA statistics.

Table 1: Descriptions of the LMA Statistics:

LMA Statistics	Description
PBU Sent	Total number of Proxy Binding Updates (PBUs) sent to the LMA by the MAG. PBU is a request message sent by the MAG to a mobile node's LMA for establishing a binding between the mobile node's interface and its current care-of address (Proxy-CoA).
PBA Received	Total number of Proxy Binding Acknowledgements (PBAs) received by the MAG from the LMA. PBA is a reply message sent by an LMA in response to a PBU message that it receives from a MAG.
PBRI Sent	Total number of Proxy Binding Revocation Indications (PBRIs) sent by the MAG to the LMA.

LMA Statistics	Description
PBRI Received	Total number of PBRIs received from the LMA by the MAG.
PBRA Sent	Total number of Proxy Binding Revocation Acknowledgements (PBRAs) sent by the MAG to the LMA.
PBRA Received	Total number of PBRAs that the MAG receives from the LMA.
Number of Handoff	Number of handoffs between the MAG and the LMA.

Examples

The following example shows how to display the LMA statistics:

```
(Cisco Controller) >show pmipv6 mag stats
[M1]: Total Bindings    : 1
[M1]: PBU Sent          : 7
[M1]: PBA Rcvd          : 4
[M1]: PBRI Sent         : 0
[M1]: PBRI Rcvd         : 0
[M1]: PBRA Sent         : 0
[M1]: PBRA Rcvd         : 0
[M1]: No Of handoff     : 0
```

show pmipv6 profile summary

To display the summary of the PMIPv6 profiles, use the **show pmipv6 profile summary** command.

show pmipv6 profile summary

Syntax Description This command has no arguments or keywords.

Command Default None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples The following example shows how to display the summary of the PMIPv6 profiles:

```
(Cisco Controller) >show pmipv6 profile summary
 Profile Name    WLAN IDS (Mapped)
 ------------    -----------------
  Group1            6
```

config Commands

This section lists the **config** commands to configure mobility.

config mobility dscp

To configure the mobility intercontroller DSCP value, use the **config mobility dscp** command.

config mobility dscp *dscp_value*

Syntax Description

dscp_value	DSCP value ranging from 0 to 63.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to configure the mobility intercontroller DSCP value to 40:

```
(Cisco Controller) >config mobility dscp 40
```

config mobility group anchor

To create a new mobility anchor for the WLAN or wired guest LAN, enter, use the **config mobility group anchor** command.

config mobility group anchor {**add** | **delete**} {**wlan** *wlan_id* | **guest-lan** *guest_lan_id*} *anchor_ip*

Syntax Description

add	Adds or changes a mobility anchor to a wireless LAN.
delete	Deletes a mobility anchor from a wireless LAN.
wlan	Specifies the wireless LAN anchor settings.
wlan_id	Wireless LAN identifier between 1 and 512 (inclusive).
guest-lan	Specifies the guest LAN anchor settings.
guest_lan_id	Guest LAN identifier between 1 and 5 (inclusive).
anchor_ip	IP address of the anchor controller.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

The *wlan_id* or *guest_lan_id* must exist and be disabled.

Auto-anchor mobility is enabled for the WLAN or wired guest LAN when you configure the first mobility anchor. Deleting the last anchor disables the auto-anchor mobility feature and resumes normal mobility for new associations.

Examples

The following example shows how to add a mobility anchor with the IP address 192.12.1.5 to a wireless LAN ID 2:

```
(Cisco Controller) >config mobility group anchor add wlan 2 192.12.1.5
```

The following example shows how to delete a mobility anchor with the IP address 193.13.1.15 from a wireless LAN:

```
(Cisco Controller) >config mobility group anchor delete wlan 5 193.13.1.5
```

config mobility group domain

To configure the mobility domain name, use the **config mobility group domain** command.

config mobility group domain *domain_name*

Syntax Description

domain_name	Domain name. The domain name can be up to 31 case-sensitive characters.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to configure a mobility domain name lab1:

```
(Cisco Controller) >config mobility group domain lab1
```

config mobility group keepalive count

To configure the Cisco WLC to detect failed mobility group members (including anchor Cisco WLCs), use the **config mobility group keepalive count** command.

config mobility group keepalive count *count*

Syntax Description

count	Number of times that a ping request is sent to a mobility group member before the member is considered unreachable. The range is from 3 to 20. The default is 3.

Command Default

The default number of times that a ping request is sent to a mobility group member is 3.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to specify the number of times a ping request is sent to a mobility group member before the member is considered unreachable to three counts:

```
(Cisco Controller) >config mobility group keepalive count 3
```

config mobility group keepalive interval

To configure the controller to detect failed mobility group members (including anchor controllers), use the **config mobility group keepalive** command.

config mobility group keepalive *interval*

Syntax Description

interval	Interval of time between each ping request sent to a mobility group member. The range is from 1 to 30 seconds. The default value is 10 seconds.

Command Default

The default interval of time between each ping request is 10 seconds.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to specify the amount of time between each ping request sent to a mobility group member to 10 seconds:

```
(Cisco Controller) >config mobility group keepalive 10
```

config mobility group member

To add or delete users from the mobility group member list, use the **config mobility group member** command.

config mobility group member {**add** *MAC IP_address* [*group_name*] | **delete** *MAC IP _address* | **hash** *IP _address* {*key* | **none**}}

Syntax Description

add	Adds or changes a mobility group member to the list.
MAC	Member switch MAC address.
IP_address	Member switch IP address.
group_name	(Optional) Member switch group name (if different from the default group name).
delete	(Optional) Deletes a mobility group member from the list.
hash	Configures the hash key for authorization. You can configure the hash key only if the member is a virtual controller in the same domain.
key	Hash key of the virtual controller. For example, a819d479dcfeb3e0974421b6e8335582263d9169
none	Clears the previous hash key of the virtual controller.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to add a mobility group member to the list:

```
(Cisco Controller) >config mobility group member add 11:11:11:11:11:11 192.12.1.2
```

The following example shows how to configure the hash key of a virtual controller in the same domain:

```
(Cisco Controller) >config mobility group member hash 9.2.115.68
a819d479dcfeb3e0974421b6e8335582263d9169
```

config mobility group multicast-address

To configure the multicast group IP address for nonlocal groups within the mobility list, use the **config mobility group multicast-address** command.

config mobility group multicast-address *group_name IP_address*

Syntax Description

group_name	Member switch group name (if different from the default group name).
IP_address	Member switch IP address.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to configure the multicast group IP address 10.10.10.1 for a group named test:

```
(Cisco Controller) >config mobility group multicast-address test 10.10.10.1
```

config mobility multicast-mode

To enable or disable mobility multicast mode, use the **config mobility multicast-mode** command.

config mobility multicast-mode {**enable** | **disable**} *local_group_multicast_address*

Syntax Description

enable	Enables the multicast mode; the controller uses multicast mode to send Mobile Announce messages to the local group.
disable	Disables the multicast mode; the controller uses unicast mode to send the Mobile Announce messages to the local group.
local_group_multicast_address	IP address for the local mobility group.

Command Default

The mobility multicast mode is disabled.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to enable the multicast mobility mode for the local mobility group IP address 157.168.20.0:

```
(Cisco Controller) >config mobility multicast-mode enable 157.168.20.0
```

config mobility new-architecture

To enable new mobility on the Cisco Wireless LAN Controller (WLC), use the **config mobility new-architecture** command.

config mobility new-architecture {**enable**| **disable**}

Syntax Description

enable	Configures the Cisco WLC to switch to the new mobility architecture.
disable	Configures the Cisco WLC to switch to the old flat mobility architecture.

Command Default

By default, new mobility is disabled.

Command History

Release	Modification
7.3.112.0	This command was introduced.

Usage Guidelines

New mobility is supported only on Cisco WiSM2, Cisco 2500 Series Wireless Controllers, Cisco 5500 Series Wireless Controllers, and Cisco 8500 Series Wireless Controllers. New mobility enables the Cisco WLC to be compatible with Converged Access controllers with Wireless Control Module (WCM), such as Cisco Catalyst 3850 Series and the Cisco 5760 Wireless LAN Controllers.

Examples

The following example shows how to enable new mobility on the Cisco WLC:

```
(Cisco Controller) >config mobility new-architecture enable
```

config mobility oracle

To configure the Mobility Oracle (MO), use the **config mobility oracle** command.

config mobility oracle {**enable** | **disable** | **ip** *ip_address*}

Syntax Description

enable	Enables the MO on startup.
disable	Disables the MO on startup.
ip	Specifies the IP address of the MO.
ip_address	IP address of the MO.

Command Default

None

Command History

Release	Modification
7.3.112.0	This command was introduced.

Usage Guidelines

The MO maintains the client database under one complete mobility domain. It consists of a station database, an interface to the mobility Cisco WLC, and an NTP server. There can be only one MO in the entire mobility domain.

Examples

The following example shows how to configure the MO IP address:

```
(Cisco Controller) >config mobility oracle ip 27.0.0.1
```

config mobility switchPeerGroup

To configure a switch peer group (SPG) on the controller, use the **config mobility switchPeerGroup** command.

config mobility switchPeerGroup {**bridge-domain-id** *peer-group-name bridge domain id* | **create** *peer-group-name* | **delete** *peer-group-name* | **member** {**add** | **delete**} *IP_address* [*public_IP_address*] *peer-group-name* | **multicast-address** *peer-group-name multicast_IP_address*}

Syntax Description

bridge-domain-id	Configures the bridge domain ID of the SPG.
peer-group-name	Name of the SPG.
bridge domain id	Bridge domain ID of the SPG.
create	Creates an SPG.
delete	Deletes an SPG.
member	Configures a member switch for an SPG.
add	Adds a member switch into an SPG.
IP_address	IP address of the member switch.
public_IP_address	(Optional) Public IP address of the SPG member.
multicast-address	Configures the multicast address of the SPG.
multicast_IP_address	Multicast address of the SPG.

Command Default

None

Command History

Release	Modification
7.3.112.0	This command was introduced.

Examples

The following example shows how to create an SPG.

```
(Cisco Controller) >config mobility switchPeerGroup create SPG1
```

config mobility secure-mode

To configure the secure mode for mobility messages between Cisco WLCs, use the **config mobility secure-mode** command.

config mobility secure-mode {**enable** | **disable**}

Syntax Description

enable	Enables the mobility group message security.
disable	Disables mobility group message security.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to enable the secure mode for mobility messages:

```
(Cisco Controller) >config mobility secure-mode enable
```

config mobility statistics reset

To reset the mobility statistics, use the **config mobility statistics reset** command.

config mobility statistics reset

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

This example shows how to reset the mobility group statistics:

```
(Cisco Controller) >config mobility statistics reset
```

config pmipv6 domain

To configure PMIPv6 and to enable Mobile Access Gateway (MAG) functionality on Cisco WLC, use the **config pmipv6 domain** command.

config pmipv6 domain *domain_name*

Syntax Description

domain_name	Name of the PMIPv6 domain. The domain name can be up to 127 case-sensitive, alphanumeric characters.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to configure a domain name for a PMIPv6 WLAN:

```
(Cisco Controller) >config pmipv6 domain floor1
```

config pmipv6 add profile

To create a Proxy Mobility IPv6 (PMIPv6) profile for the WLAN, use the **config pmipv6 add profile** command. You can configure PMIPv6 profiles based on a realm or a service set identifier (SSID).

config pmipv6 add profile *profile_name* **nai** {*user@realm* | *@realm* | *****} **lma** *lma_name* **apn** *apn_name*

Syntax Description

profile_name	Name of the profile. The profile name is case sensitive and can be up to 127 alphanumeric characters.
nai	Specifies the Network Access Identifier of the client.
user@realm	Network Access Identifier of the client in the format *user@*realm. The NAI name is case sensitive and can be up to 127 alphanumeric characters.
@realm	Network Access Identifier of the client in the format @realm.
*	All Network Access Identifiers. You can have profiles based on an SSID for all users.
lma	Specifies the Local Mobility Anchor (LMA).
lma_name	Name of LMA. The LMA name is case sensitive and can be up to 127 alphanumeric characters.
apn	Specifies the access point.
ap_name	Name of the access point. The access point name is case sensitive and can be up to 127 alphanumeric characters.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

This command is a prerequisite for using PMIPv6 configuration commands if the controller uses open authentication.

Examples The following example shows how to create a PMIPv6 profile:

```
(Cisco Controller) >config pmipv6 add profile profile1 nai @vodfone.com lma vodfonelma apn
 vodafoneapn
```

config pmipv6 delete

To delete a Proxy Mobility IPv6 (PMIPv6) profile, domain, or Local Mobility Anchor (LMA), use the **config pmipv6 delete** command.

config pmipv6 delete {**profile** *profile_name* **nai** { *nai_id* | **all** } | **domain** *domain_name* | **lma** *lma_name*}

Syntax Description

profile	Specifies the PMIPv6 profile.
profile_name	Name of the PMIPv6 profile. The profile name is case sensitive and can be up to 127 alphanumeric characters.
nai	Specifies the Network Access Identifier (NAI) of a mobile client.
nai_id	Network Access Identifier of a mobile client. The NAI is case sensitive and can be up to 127 alphanumeric characters.
all	Specifies all NAIs. When you delete all NAIs, the profile is deleted.
domain	Specifies the PMIPv6 domain.
domain_name	Name of the PMIPv6 domain. The domain name is case sensitive and can be up to 127 alphanumeric characters.
lma	Specifies the LMA.
lma_name	Name of the LMA. The LMA name is case sensitive and can be up to 127 alphanumeric characters.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to delete a domain:

```
(Cisco Controller) >config pmipv6 delete lab1
```

config pmipv6 mag binding init-retx-time

To configure the initial timeout between the proxy binding updates (PBUs) when the Mobile Access Gateway (MAG) does not receive the proxy binding acknowledgements (PBAs), use the **config pmipv6 mag binding init-retx-time** command.

config pmipv6 mag binding init-retx-time *units*

Syntax Description

units	Initial timeout between the PBUs when the MAG does not receive the PBAs. The range is from 100 to 65535 seconds.

Command Default

The default initial timeout is 1000 seconds.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to configure the initial timeout between the PBUs when the MAG does not receive the PBAs:

```
(Cisco Controller) >config pmipv6 mag binding init-retx-time 500
```

config pmipv6 mag binding lifetime

To configure the lifetime of the binding entries in the Mobile Access Gateway (MAG), use the **config pmipv6 mag binding lifetime** command.

config pmipv6 mag binding lifetime *units*

Syntax Description

units	Lifetime of the binding entries in the MAG. The binding lifetime must be a multiple of 4 seconds. The range is from 10 to 65535 seconds.

Command Default

The default lifetime of the binding entries is 65535 seconds.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

You must configure a Proxy Mobility IPv6 (PMIPv6) domain before you configure the lifetime of the binding entries in the controller.

Examples

The following example shows how to configure the lifetime of the binding entries in the controller:

```
(Cisco Controller) >config pmipv6 mag binding lifetime 5000
```

config pmipv6 mag binding max-retx-time

To configure the maximum timeout between the proxy binding updates (PBUs) when the Mobility Access Gateway (MAG) does not receive the proxy binding acknowledgments (PBAs), use the **config pmipv6 mag binding max-retx-time** command.

config pmipv6 mag binding max-retx-time *units*

Syntax Description

units	Maximum timeout between the PBUs when the MAG does not receive the PBAs. The range is from 100 to 65535 seconds.

Command Default

The default maximum timeout is 32000 seconds.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to configure the maximum timeout between the PBUs when the MAG does not receive the PBAs:

```
(Cisco Controller) >config pmipv6 mag binding max-retx-time 50
```

config pmipv6 mag binding maximum

To configure the maximum number of binding entries in the Mobile Access Gateway (MAG), use the **config pmipv6 mag binding maximum** command.

config pmipv6 mag binding maximum *units*

Syntax Description

units	Maximum number of binding entries in the MAG. This number indicates the maximum number of users connected to the MAG. The range is from 0 to 40000.

Command Default

The default maximum number of binding entries in the MAG is 10000.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

You must configure a Proxy Mobility IPv6 (PMIPv6) domain before you configure the maximum number of binding entries in the MAG.

Examples

The following example shows how to configure the maximum number of binding entries in the MAG:

```
(Cisco Controller) >config pmipv6 mag binding maximum 20000
```

config pmipv6 mag binding refresh-time

To configure the refresh time of the binding entries in the MAG, use the **config pmipv6 mag binding refresh-time** command.

config pmipv6 mag binding refresh-time *units*

Syntax Description

units	Refresh time of the binding entries in the MAG. The binding refresh time must be a multiple of 4. The range is from 4 to 65535 seconds.

Command Default

The default refresh time of the binding entries in the MAG is 300 seconds.

Usage Guidelines

You must configure a PMIPv6 domain before you configure the refresh time of the binding entries in the MAG.

Examples

The following example shows how to configure the refresh time of the binding entries in the MAG:

```
(Cisco Controller) >config pmipv6 mag binding refresh-time 500
```

config pmipv6 mag bri delay

To configure the maximum or minimum amount of time that the MAG waits before retransmitting a Binding Revocation Indication (BRI) message, use the **config pmipv6 mag bri delay** command.

config pmipv6 mag bri delay {**min** | **max**} *time*

Syntax Description

min	Specifies the minimum amount of time that the MAG waits before retransmitting a BRI message.
max	Specifies the maximum amount of time that the MAG waits before retransmitting a BRI message.
time	Maximum or minimum amount of time that the Cisco WLC waits before retransmitting a BRI message. The range is from 500 to 65535 milliseconds.

Command Default

The default value of the maximum amount of time that the MAG waits before retransmitting a BRI message is 2 seconds.

The default value of the minimum amount of time that the MAG waits before retransmitting a BRI message is 1 second.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to configure the minimum amount of time that the MAG waits before retransmitting a BRI message:

```
(Cisco Controller) >config pmipv6 mag bri delay min 500
```

config pmipv6 mag bri retries

To configure the maximum number of times that the MAG retransmits the Binding Revocation Indication (BRI) message before receiving the Binding Revocation Acknowledgment (BRA) message, use the **config pmipv6 mag bri retries** command.

config pmipv6 mag bri retries *retries*

Syntax Description

retries	Maximum number of times that the MAG retransmits the BRI message before receiving the BRA message. The range is from 1 to 10 retries.

Command Default

The default is 1 retry.

Examples

The following example shows how to configure the maximum number of times that the MAG retries:

```
(Cisco Controller) >config pmipv6 mag bri retries 5
```

config pmipv6 mag lma

To configure a local mobility anchor (LMA) with the mobile access gateway (MAG), use the **config pmipv6 mag lma** command.

config pmipv6 mag lma *lma_name* **ipv4-address** *address*

Syntax Description

lma_name	Name of the LMA. The LMA name can be a NAI or a string that uniquely identifies the LMA.
ipv4-address	Specifies the IP address of the LMA.
address	IP address of the LMA.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

This command is a prerequisite to configure PMIPv6 parameters on the MAG.

Examples

The following example shows how to configure an LMA with the MAG:

```
(Cisco Controller) >config pmipv6 mag lma vodafonelma ipv4-address 209.165.200.254
```

config pmipv6 mag replay-protection

To configure the maximum amount of time difference between the timestamp in the received proxy binding acknowledgment (PBA) and the current time of the day for replay protection, use the **config pmipv6 mag replay-protection** command.

config pmipv6 mag replay-protection { **timestamp window** *time* | **sequence-no** *sequence* | **mobile-node-timestamp** *mobile_node_timestamp* }

Syntax Description

timestamp	Specifies the time stamp of the PBA message.
window	Specifies the maximum time difference between the time stamp in the received PBA message and the current time of day.
time	Maximum time difference between the time stamp in the received PBA message and the current time of day. The range is from 1 to 300 milliseconds.
sequence-no	(Optional) Specifies the sequence number in a Proxy Binding Update message.
sequence	(Optional) Sequence number in the Proxy Binding Update message.
mobile_node_timestamp	(Optional) Specifies the time stamp of the mobile node.
mobile_node_timestamp	(Optional) Time stamp of the mobile node.

Command Default

The default maximum time difference is 300 milliseconds.

Usage Guidelines

Only the timestamp option is supported.

Examples

The following example shows how to configure the maximum amount of time difference in milliseconds between the time stamp in the received PBA message and the current time of day:

```
(Cisco Controller) >config pmipv6 mag replay-protection timestamp window 200
```

config wlan mobility anchor

To change the state of MAC filtering on a wireless LAN, use the **config wlan mobility anchor** command.

config wlan mobility anchor {**add** | **delete**} *wlan_id ip_address*

Syntax Description

add	Enables MAC filtering on a wireless LAN.
delete	Disables MAC filtering on a wireless LAN.
wlan_id	Wireless LAN identifier between 1 and 512.
ip_address	Member switch IP address for anchoring the wireless LAN.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to configure the mobility wireless LAN anchor list with WLAN ID 4 and IP address 192.168.0.14:6:

```
(Cisco Controller) >config wlan mobility anchor add 4 192.168.0.14
```

config wlan mobility foreign-map

To configure interfaces or interface groups for foreign Cisco WLCs, use the **config wlan mobility foreign-map** command.

config wlan mobility foreign-map {**add** | **delete**} *wlan_id foreign_mac_address* {*interface_name* | *interface_group_name*}

Syntax Description

add	Adds an interface or interface group to the map of foreign controllers.
delete	Deletes an interface or interface group from the map of foreign controllers.
wlan_id	Wireless LAN identifier from 1 to 512.
foreign_mac_address	Foreign switch MAC address on a WLAN.
interface_name	Interface name up to 32 alphanumeric characters.
interface_group_name	Interface group name up to 32 alphanumeric characters.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to add an interface group for foreign Cisco WLCs with WLAN ID 4 and a foreign switch MAC address on WLAN 00:21:1b:ea:36:60:

```
(Cisco Controller) >config wlan mobility foreign-map add 4 00:21:1b:ea:36:60 mygroup1
```

config wlan pmipv6 default-realm

To configure a default realm for a PMIPv6 WLAN, use the **config wlan pmipv6 default-realm** command.

config wlan pmipv6 default-realm { *default-realm-name* | **none** } *wlan_id*

Syntax Description

default-realm-name	Default realm name for the WLAN.
none	Clears the realm name for the WLAN.
wlan_id	Wireless LAN identifier between 1 and 512.

Command Default

None.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to configure a default realm name on a PMIPv6 WLAN:

```
(Cisco Controller) >config wlan pmipv6 default-realm XYZ 6
```

config wlan pmipv6 mobility-type

To configure the mobility type on a WLAN, use the **config wlan pmipv6 mobility-type** command.

config wlan pmipv6 mobility-type {**none** | **pmipv6** } { *wlan_id* | **all** }

Syntax Description

none	Configures a WLAN with Simple IP mobility.
pmipv6	Configures a WLAN with PMIPv6 mobility.
all	Enables the specified type of mobility for all WLANs.
wlan_id	WLAN identifier between 1 and 512.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

You must disable the WLAN when you configure the mobility type.

Examples

The following example shows how to configure the mobility type as PMIPv6 on a WLAN:

```
(Cisco Controller) >config wlan pmipv6 mobility-type pmipv6 16
```

config wlan pmipv6 profile_name

To configure a profile name for the PMIPv6 WLAN, use the **config wlan pmipv6 profile_name** command.

config wlan pmipv6 profile_name *profile_name wlan_id*

Syntax Description

profile_name	Profile name for the PMIPv6 WLAN.
wlan_id	Wireless LAN identifier from 1 to 512.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

This command binds a profile name to the PMIPv6 WLAN or SSID. Each time that a mobile node associates with the controller, it uses the profile name and NAI in the trigger to the PMIPV6 module. The PMIPV6 module extracts all the profile specific parameters such as LMA IP, APN, and NAI and sends the PBU to the ASR5K.

Examples

The following example shows how to create a profile named ABC01 on a PMIPv6 WLAN:

```
(Cisco Controller) >config wlan pmipv6 profile_name ABC01 16
```

clear, debug and ping Commands

This section lists the **config** , **debug** , **ping** commands for mobility.

clear stats mobility

To clear mobility manager statistics, use the **clear stats mobility** command.

clear stats mobility

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to clear mobility manager statistics:

```
(Cisco Controller) >clear stats mobility

   Mobility stats cleared.
```

debug dot11

To configure the debugging of 802.11 events, use the **debug dot11** command.

debug dot11 {**all** | **load-balancing** | **management** | **mobile** | **nmsp** | **probe** | **rldp** | **rogue** | **state**} {**enable** | **disable**}

Syntax Description

all	Configures the debugging of all 802.11 messages.
load-balancing	Configures the debugging of 802.11 load balancing events.
management	Configures the debugging of 802.11 MAC management messages.
mobile	Configures the debugging of 802.11 mobile events.
nmsp	Configures the debugging of the 802.11 NMSP interface events.
probe	Configures the debugging of probe.
rldp	Configures the debugging of 802.11 Rogue Location Discovery.
rogue	Configures the debugging of 802.11 rogue events.
state	Configures the debugging of 802.11 mobile state transitions.
enable	Enables the 802.11 debugging.
disable	Disables the 802.11 debugging.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples The following example shows how to enable the debugging of 802.11 settings:

```
(Cisco Controller) > debug dot11 state enable
(Cisco Controller) > debug dot11 mobile enable
```

Related Commands

debug disable-all

debug dot11 mgmt interface

debug dot11 mgmt msg

debug dot11 mgmt ssid

debug dot11 mgmt state-machine

debug dot11 mgmt station

debug client

To configure the debugging of a passive client that is associated correctly with the access point, use the **debug client** command.

debug client *mac_address*

Syntax Description

mac_address	MAC address of the client.

Command Default

None

Examples

The following example shows how to debug a passive client with MAC address 00:0d:28:f4:c0:45:

```
(Cisco Controller) >debug client 00:0d:28:f4:c0:45
```

debug fmchs

To configure debugging of Fixed Mobile Convergence Handover Service (FMCHS) of the controller, use the **debug fmchs**command.

debug fmchs {**all** | **error** | **event** | **nmsp** | **packet**} {**enable** | **disable**}

Syntax Description

all	Configures debugging of all FMCHS messages.
error	Configures debugging of the FMCHS errors.
event	Configures debugging of the FMCHS events.
nmsp	Configures debugging of the FMCHS NMSP events.
packet	Configures debugging of the FMCHS packets.
enable	Enables debugging of the FMCHS options.
disable	Disables debugging of the FMCHS options.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples

The following example shows how to enable FMCHS event debugging:

```
(Cisco Controller) >debug fmchs event enable
```

debug mobility

To configure the debugging of wireless mobility, use the **debug mobility** command.

debug mobility {**ap-list** | **config** | **directory** | **dtls** | **handoff** | **keep-alive** | **multicast** | **oracle** | **packet** | **peer-ip** *IP-address* | **pmk** | **pmtu-discovery** | **redha**} {**enable** | **disable**}

Syntax Description

ap-list	Configures the debugging of wireless mobility access point list.
config	Configures the debugging of wireless mobility configuration.
directory	Configures the debugging of wireless mobility error messages.
dtls	Configures the debugging of wireless mobility Datagram Transport Layer Security (DTLS) options.
handoff	Configures the debugging of wireless mobility handoff messages.
keep-alive	Configures the debugging of wireless mobility CAPWAP data DTLS keep-alive packets.
multicast	Configures the debugging of multicast mobility packets.
oracle	Starts the debugging of wireless mobility oracle options.
packet	Configures the debugging of wireless mobility packets.
peer-ip	Configures IP address of the mobility peer for which incoming and outgoing mobility messages should be displayed.
IP-address	IP address of the mobility peer for which incoming and outgoing mobility messages should be displayed.
pmk	Configures the debugging of wireless mobility pairwise master key (PMK).
pmtu-discovery	Configures the debugging of the wireless mobility path MTU discovery.

redha	Configures the debugging of the multicast mobility high availability.
enable	Enables the debugging of the wireless mobility feature.
disable	Disables the debugging of the wireless mobility feature.

Command Default None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Examples The following example shows how to enable the debugging of wireless mobility packets.

```
(Cisco Controller) >debug mobility handoff enable
```

eping

To test the mobility Ethernet over IP (EoIP) data packet communication between two Cisco WLCs, use the **eping** command.

eping *mobility_peer_IP_address*

Syntax Description

mobility_peer_IP_address	IP address of a controller that belongs to a mobility group.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

This command tests the mobility data traffic over the management interface.

Note This ping test is not Internet Control Message Protocol (ICMP) based. The term “ping” is used to indicate an echo request and an echo reply message.

Examples

The following example shows how to test EoIP data packets and to set the IP address of a controller that belongs to a mobility group to 172.12.35.31:

```
(Cisco Controller) >eping 172.12.35.31
```

mping

To test mobility UDP control packet communication between two Cisco WLCs, use the **mping** command.

mping *mobility_peer_IP_address*

Syntax Description

mobility_peer_IP_address	IP address of a controller that belongs to a mobility group.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

This test runs over mobility UDP port 16666. It tests whether the mobility control packet can be reached over the management interface.

Note This ping test is not Internet Control Message Protocol (ICMP) based. The term "ping" is used to indicate an echo request and an echo reply message.

Examples

The following example shows how to test mobility UDP control packet communications and to set the IP address of a Cisco WLC that belongs to a mobility group to 172.12.35.31:

```
(Cisco Controller) >mping 172.12.35.31
```