

Contents

3G/4G modem management commands	1
Common management commands	1
controller cellular	1
description	1
display cellular	2
display controller cellular	13
dm-port open	15
mode	15
modem reboot	16
modem response	17
pin modify	17
pin unlock	18
pin verification enable	19
pin verify	20
plmn search	21
plmn select	22
reset counters controller cellular	23
rssi	23
sendat	24
shutdown	25
sim backup enable track	26
sim switch-back enable	26
sim switch-to	27
trust-imsi	28
3G modem-specific management commands	28
gsm band	28
profile create	29
profile delete	30
profile main	31
serial-set	32
wcdma band	32
4G modem-specific management commands	33
apn	33
apn-profile	34
apn-profile apply	34
attach-format imsi-sn split	35
authentication-mode	36
bandwidth	37
default	37
description	38
display interface eth-channel	39
eth-channel	42
imsi bind	42
interface eth-channel	43
ip address cellular-alloc	44
ipv6 address cellular-alloc	44
lte band	45
mtu	46
pdp-type	46
reset counters interface	47
shutdown	47

3G/4G modem management commands

Common management commands

controller cellular

Use **controller cellular** to enter cellular interface view.

Syntax

controller cellular *cellular-number*

Views

System view

Predefined user roles

network-admin

Parameters

cellular-number: Specifies a cellular interface by its number.

Examples

```
# Enter Cellular 2/4/0 interface view.  
<Sysname> system-view  
[Sysname] controller cellular 2/4/0  
[Sysname-Cellular 2/4/0]
```

description

Use **description** to configure the description of an interface.

Use **undo description** to restore the default.

Syntax

description *text*

undo description

Default

The description for a cellular interface is in the *interface name* **Interface** format, for example, Cellular 2/4/0 Interface.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

text: Sets an interface description, a case-sensitive string of 1 to 255 characters.

Examples

```
# Set the description to Cellular-intf for Cellular 2/4/0.
```

```
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] description Cellular-intf
```

display cellular

Use **display cellular** to display call connection information for a 3G/4G modem.

Syntax

```
display cellular [ interface-number ]
```

Views

Any view

Predefined user roles

network-admin
network-operator

Parameters

cellular [*interface-number*]: Specifies a cellular interface by its number. If you do not specify a cellular interface, this command displays call connection information for all cellular interfaces with 3G/4G modems installed.

Usage guidelines

The command output might vary by modem manufacturers.

Examples

```
# Display call connection information for the 3G modem. (WCDMA network).
<Sysname> display cellular 2/4/0
Cellular2/4/0:
  Hardware Information:
    Model: E176G
    Modem Firmware Version: 11.604.09.00.00
    Hardware Version: CD25TCPU
    International Mobile Subscriber Identity (IMSI): 460029010431055
    International Mobile Equipment Identity (IMEI): 353871020138548
    Factory Serial Number (FSN): DK9RAA1871500602
    Modem Status: Online
  Profile Information:
    Profile 1: Active
      PDP Type: IPv4, Header Compression: Off
      Data Compression: Off
      Access Point Name (APN): 001
      Packet Session Status: Inactive
  Modem Setup Information:
    Diagnostics Monitor: Close
  Network Information:
    Current Service Status: Service available
    Current Service: Combined
    Packet Service: Attached
    Packet Session Status: Inactive
```

Current Roaming Status: Roaming
 Network Selection Mode: Manual
 Network Connection Mode: WCDMA precedence
 Current Network Connection: HSDPA and HSUPA
 Mobile Country Code (MCC): 460
 Mobile Network Code (MNC): 00
 Location Area Code (LAC): 4318
 Cell ID: 25381
 Radio Information:
 Current Band: ANY
 Current RSSI: -51 dBm
 Modem Security Information:
 PIN Verification: Disabled
 PIN Status: Ready
 Number of Retries remaining: 3
 SIM Status: OK

Table 1 Command output

Field	Description
Model	Modem name.
International Mobile Subscriber Identity (IMSI)	IMSI string of the SIM card.
International Mobile Equipment Identity (IMEI)	IMEI serial number of the modem.
Factory Serial Number (FSN)	FSN of the modem.
Modem Status	Status of the modem: • Online—The modem is powered on. • Offline—The modem is powered off or in low power mode. The cellular interface is not available.
Profile Information	Profile settings for the modem.
Profile 1	PDP status of the modem: • Active—The profile is already configured. • Undefined—The profile is not configured.
PDP Type	PDP type, displayed only when Profile 1 is Active : • IPv4. • IPv6. • PPP (transparent transmission).
Header Compression	PDP header compression status: • On. • Off.
Data Compression	PDP data compression status: • On. • Off.
Packet Session Status	PDP status: • Active—The modem is transmitting data through PPP. • Inactive—The modem is physically down.

Field	Description
Diagnostics Monitor	Diagnostic and monitoring (DM) status: • Open—DM is enabled. • Close—DM is disabled.
Current Service Status	Service status of the modem: • Service available—The modem is providing services correctly. • Emergency—The modem is providing limited services. The cellular interface is not available. • No service—The modem cannot provide services. The cellular interface is not available. • Low power—The modem is in low power mode. The cellular interface is not available.
Current Service	Current service type: • Circuit-switched—For the CS domain only. • Packet-switched—For the PS domain only. • Combined—For both the CS and PS domains. • Invalid—Invalid service.
Packet Service	PS domain attach/detach status of the modem: • Detached—The cellular interface is not available. • Attached—The cellular interface is available.
Current Roaming Status	Roaming status: • Roaming. • Home.
Network Selection Mode	Network selection mode: • Manual. • Automatic.
Network Connection Mode	Network connection mode: • WCDMA only—Connected to the WCDMA network only. • WCDMA precedence—Connected to the WCDMA network with preference. • GSM only—Connected to the GSM network only. • GSM precedence—Connected to the GSM network with preference.
Current Network Connection	Current network: • No Service. • GSM. • GPRS. • EDGE. • WCDMA. • HSDPA. • HSUPA. • HSDPA and HSUPA. • HSPA+. • Unknown.
Mobile Country Code (MCC)	The MCC is displayed if the modem has found a mobile network.
Mobile Network Code (MNC)	The MNC is displayed if the modem is successfully registered with a mobile network.
Location Area Code (LAC)	The LAC is displayed if the modem is successfully registered with a mobile network.

Field	Description
Cell ID	The Cell ID is displayed if the modem is successfully registered with a mobile network.
Current Band	Current band selection mode: • GSM. • WCDMA. • ANY. • AUTO.
Current RSSI	Current RSSI: • An RSSI value in the range of –110 dBm to –51 dBm. • Unknown—No signal. The cellular interface is unavailable.
PIN Verification	PIN authentication status: • Disabled. • Enabled.
PIN Status	PIN status: • Ready—The SIM card is ready. • PIN Requirement—Requires you to execute the pin verify command to enter the PIN for PIN verification. • PUK Requirement—Requires you to execute the pin unlock command to unlock the SIM or UIM card.
Number of Retries remaining	Remaining retries available for entering the PIN or PUK.
SIM Status	SIM card status: • OK—The SIM card is normal. • Network Reject—The SIM card is denied access to the network. The cellular interface is not available. • Not Insert—The SIM card is absent. The cellular interface is not available.

Display call connection information for the 3G modem (TD-SCDMA network).

```
<Sysname> display cellular 2/4/0
```

Cellular2/4/0:

Hardware Information:

Model: ET128

Modem Firmware Version: 11.101.01.08.00

Hardware Version: CS31TCPU

International Mobile Subscriber Identity (IMSI): 460079011105842

International Mobile Equipment Identity (IMEI): 860039002369111

Factory Serial Number (FSN): GQ4CAB1942911350

Modem Status: Online

Profile Information:

Profile 1: Active

PDP Type: IPv4

Header Compression: Off

Data Compression: Off

Access Point Name (APN): cmnet

Packet Session Status: Active

Network Information:

Current Service Status: Service available
 Network Selection Mode: Automatic
 Network Connection Mode: TD-SCDMA precedence
 Current Network Connection: HSDPA
 Mobile Network Name: CHINA MOBILE
 Downstream Bandwidth: 2800000 bps
 Radio Information:
 Current RSSI: -75 dBm
 Modem Security Information:
 PIN Verification: Disabled
 PIN Status: Ready
 Number of Retries remaining: 3
 SIM Status: OK

Table 2 Command output

Field	Description
Model	Modem name.
International Mobile Subscriber Identity (IMSI)	IMSI string of the SIM card.
International Mobile Equipment Identity (IMEI)	IMEI serial number of the modem.
Factory Serial Number (FSN)	FSN of the modem.
Modem Status	Status of the modem: • Online—The modem is powered on. • Offline—The modem is powered off or in low power mode. The cellular interface is not available.
Profile Information	Profile settings for the modem.
Profile 1	PDP status of the modem: • Active—The profile is already configured. • Undefined—The profile is not configured.
PDP Type	PDP type, displayed only when Profile 1 is Active : • IPv4. • IPv6. • PPP (transparent transmission).
Header Compression	PDP header compression status: • On. • Off.
Data Compression	PDP data compression status: • On. • Off.
Packet Session Status	PDP status: • Active—The modem is transmitting data through PPP. • Inactive—The modem is physically down.

Field	Description
Current Service Status	Service status of the modem: • Service available—The modem is providing services correctly. • Emergency—The modem is providing limited services. The cellular interface is not available. • No service—The modem cannot provide services. The cellular interface is not available. • Low power—The modem is in low power mode. The cellular interface is not available.
Network Selection Mode	Network selection mode: • Manual. • Automatic.
Network Connection Mode	Network connection mode: • WCDMA only—Connected to the WCDMA network only. • WCDMA precedence—Connected to the WCDMA network with preference. • GSM only—Connected to the GSM network only. • GSM precedence—Connected to the GSM network with preference.
Current Network Connection	Current network: • No Service. • GSM. • GPRS. • EDGE. • TD-SCDMA. • HSDPA. • Unknown.
Downstream Bandwidth	Downstream bandwidth, in bps.
Radio Information	Radio communication information.
Current RSSI	Current RSSI: • An RSSI value in the range of –110 dBm and –51 dBm. • Unknown—No signal. The cellular interface is unavailable.
PIN Verification	PIN authentication status: • Disabled. • Enabled.
PIN Status	PIN status: • Ready—The SIM card is ready. • PIN Requirement—Requires you to execute the pin verify command to enter the PIN for PIN verification. • PUK Requirement—Requires you to execute the pin unlock command to unlock the SIM or UIM card.
Number of Retries remaining	Remaining retries available for entering the PIN or PUK.
SIM Status	SIM card status: • OK—The SIM card is normal. • Network Reject—The SIM card is denied access to the network. The cellular interface is not available. • Not Insert—The SIM card is absent. The cellular interface is not available.

```
# Display call connection information for the 3G modem (CDMA network).
<Sysname> display cellular 2/4/0
Cellular2/4/0:
  Hardware Information:
    Model: EC169
    Manufacturer: HUAWEI TECHNOLOGIES CO.
    Modem Firmware Version: 11.002.03.01.45
    Hardware Version: CE62TCPUVer A
    Electronic Serial Number (ESN): c1836f2d
    Preferred Roaming List (PRL) Version: 0
    International Mobile Subscriber Identity (IMSI): 460036101433925
    Modem Status: Online
  Network Information:
    Current Service Status: Service available
    Current Roaming Status: Home
    Network Connection Mode: Manual
    Current Network Connection: 1xRTT/EVDO HYBRID
    Downstream Bandwidth: 3100000 bps
  Radio Information:
    Current RSSI(1xRTT): -93 dBm
    Current RSSI(EVDO): -75 dBm
    Current Voltage: 3336 mV
  Modem Security Information:
    PIN Verification: Disabled
    PIN Status: Ready
    Number of Retries remaining: 3
    UIM Status: OK
```

Table 3 Command output

Field	Description
Model	Modem name.
International Mobile Subscriber Identity (IMSI)	IMSI string of the UIM card.
Modem Status	Status of the modem: • Online—The modem is powered on. • Offline—The modem is powered off or in low power mode. The cellular interface is not available.
Current Service Status	Service status of the modem: • Service available—The modem is providing services correctly. • Emergency—The modem is providing limited services. The cellular interface is not available. • No service—The modem cannot provide services. The cellular interface is not available. • Low power—The modem is in low power mode. The cellular interface is not available.
Current Roaming Status	Roaming status: • Roaming. • Home.

Field	Description
Network Selection Mode	Network selection mode - Manual. - Automatic.
Current Network Connection	Current network: - No Service. 1xRTT/EVDO HYBRID. - EVDO. 1xRTT. - Unknown.
Downstream Bandwidth	Downstream bandwidth, in bps.
Radio Information	Radio communication information.
Current RSSI (1xRTT)	Current RSSI of 1xRTT: - An RSSI value in the range of –125 dBm to –75 dBm. Unknown—No signal.
Current RSSI (EVDO)	Current RSSI of EVDO: - An RSSI value in the ranges of –120 dBm to –60 dBm. Unknown—No signal.
Current Voltage	Current voltage of the UIM card, in mV.
PIN Verification	PIN authentication status: - Disabled. - Enabled.
PIN Status	PIN status: Ready—The UIM card is ready. PIN Requirement—Requires you to execute the pin verify command to enter the PIN for PIN verification. PUK Requirement—Requires you to execute the pin unlock command to unlock the SIM or UIM card.
Number of Retries remaining	Remaining retries available for entering the PIN or PUK.
UIM Status	UIM card status: OK—The UIM card is normal. Network Reject—The UIM card is denied access to the network. The cellular interface is not available. Not Insert—The UIM card is absent. The cellular interface is not available.

Display the call connection information for the 4G modem (LTE network).

```
<Sysname> display cellular 0/0
```

```
Cellular0/0:
```

```
Hardware Information:
```

```
Model: MC7750
```

```
Manufacturer: Sierra Wireless, Incorporated
```

```
Modem Firmware Version: SWI9600M_03.05.10.06
```

```
Hardware Version: 10
```

```
International Mobile Equipment Identity (IMEI): 990000560327506
```

```
Modem Status: Online
```

Profile Information:

Profile index: 1

PDP Type: IPv4

Header Compression: Off

Data Compression: Off

Access Point Name (APN): vzwinternet

Network Information:

Current Service Status: Service available

Current Roaming Status: Roaming

Current Data Bearer Technology: Unknown

Network Selection Mode: Manual

Mobile Country Code (MCC): 460

Mobile Network Code (MNC): 00

Location Area Code (LAC): 4318

Cell ID: 25381

Radio Information:

Technology Preference: LTE only

Technology Selected: LTE

LTE related info:

Current RSSI: -79 dBm

Current RSRQ: -9 dB

Current RSRP: -106 dBm

Current SNR: 5 dB

Tx Power: -3276 dBm

Modem Security Information:

PIN Verification: Disabled

PIN Status: Ready

SIM Status: OK

ICCID: 89860113811003195000

Table 4 Command output

Field	Description
Model	Modem name.
International Mobile Equipment Identity (IMEI)	IMEI serial number of the modem.
Modem Status	Status of the modem: • Online—The modem is powered on. • Offline—The modem is powered off or in lower power mode. The cellular interface is unavailable.
Profile Information	Profile settings for the 4G modem.
Profile index	Index of the profile for modem.
PDP Type	PDP type, displayed only when Profile 1 is Active : • IPv4. • IPv6. • PPP (transparent transmission).

Field	Description
Header Compression	PDP header compression status - On. - Off.
Data Compression	PDP data compression status: - On. - Off.
Current Service Status	Service status of the modem: Limited—The modem is not in the coverage of the selected network. The cellular interface is not available. Service available—The modem is providing services correctly. Emergency—The modem is providing limited services. The cellular interface is not available. No service—The modem cannot provide services. The cellular interface is not available. Low power—The modem is in low power mode. The cellular interface is not available.
Current Roaming Status	Roaming status: - Roaming. - Home.
Current Data Bearer Technology	Current data carrier technology: - CDMA2000 1X. - CDMA2000 HRPD (1xEV-DO). - GSM. - UMTS. - CDMA2000 HRPD (1xEV-DO RevA). - EDGE. - HSDPA and WCDMA. - WCDMA and HSUPA. - HSDPA and HSUPA. - LTE. - CDMA2000 EHRPD. - HSDPA+ and WCDMA. - HSDPA+ and HSUPA. - DC_HSDPA+ and WCDMA. - DC_HSDPA+ and HSUPA. - HSDPA+ and 64QAM. - HSDPA+, 64QAM and HSUPA. - TDSCDMA. - TDSCDMA and HSDPA. - Unknown.
Network Selection Mode	Network selection mode - Manual. - Automatic.
Mobile Country Code (MCC)	The MCC is displayed if the modem has found the network.
Mobile Network Code (MNC)	The MNC is displayed if the modem is successfully registered with a mobile network.

Field	Description
Location Area Code (LAC)	The LAC is displayed if the modem is successfully registered with a mobile network.
Cell ID	The Cell ID is displayed if the modem is successfully registered with a mobile network.
Radio Information	Radio communication information.
Technology Preference	Network connecting preference: • AUTO—Connects to a network automatically. • GSM only—Connects to a GSM network only. • GSM precedence—Connects to a GSM network with preference. • WCDMA only—Connects to a WCDMA network only. • WCDMA precedence—Connects to a WCDMA network with preference. • TD-SCDMA only—Connects to a TD-SCDMA network only. • TD-SCDMA precedence—Connects to a TD-SCDMA network with preference. • EVDO—Connects to a CDMA-EVDO network only. • 1x RTT—Connects to a CDMA-1x RTT network only. • 1xRTT/EVDO HYBRID—Connects to the CDMA-EVDO and CDMA-1x RTT hybrid networks only. • LTE only—Connects to an LTE network only.
Technology Selected	Current network: • GSM—Has connected to a GSM network. • WCDMA—Has connected to a WCDMA network. • TD-SCDMA—Has connected to a TD-SCDMA network. • EVDO—Has connected to a CDMA-EVDO network. • 1Xrtt—Has connected to a CDMA-1x RTT network. • 1xRTT/EVDO HYBRID—Has connected to the CDMA-EVDO and CDMA-1x RTT networks. • LTE—Has connected to an LTE network.
LTE related info	Information about the LTE network.
Current RSSI	Current RSSI: • An RSSI value in the range of –110 dBm and –51 dBm. • Unknown—No signal. The cellular interface is unavailable.
Current RSRQ	Reference Signal Received Quality.
Current RSRP	Reference Signal Receiving Power.
Current SNR	Signal to noise ratio.
Tx Power	Transmitting power.
Modem Security Information	Information about modem security.
PIN Verification	PIN authentication status: • Disabled. • Enabled. • Unknown.

Field	Description
PIN Status	PIN status: • Ready—The SIM card is ready. • PIN Requirement—Requires you to execute the pin verify command to enter the PIN for PIN verification. • PUK Requirement—Requires you to execute the pin unlock command to unlock the SIM or UIM card.
SIM Status	SIM card status: • OK—The SIM card is normal. • Network Reject—The SIM card is denied access to the network. The cellular interface is not available. • Not Insert—The SIM card is absent. The cellular interface is not available. • Not Initialized—The SIM card status cannot be identified.
ICCID	ID of the SIM card, displayed only when the SIM card status is OK .

Related commands

mode
pin modify
pin unlock
pin verification enable
pin verify
plmn select
profile create

display controller cellular

Use **display controller cellular** to display information about cellular interfaces.

Syntax

display controller [cellular [*interface-number*]]

Views

Any view

Predefined user roles

network-admin
 network-operator

Parameters

cellular [*interface-number*]: Specifies cellular interfaces or a cellular interface by its number. If you do not specify the **cellular** keyword, this command displays information about all interfaces. If you specify the **cellular** keyword but not the *interface-number* argument, this command displays information about all cellular interfaces.

Usage guidelines

Hot swapping a USB 3G/4G modem clears the cellular interface statistics.

Examples

```
# Display information about Cellular 2/4/0.
<Sysname> display controller cellular 2/4/0
Cellular2/4/0
Current state: UP
Description: Cellular2/4/0 Interface
Modem status: Present
DM port status: Disabled
Capability:
  1 Control channel, 1 PPP channel
Control channel 0 traffic statistics:
  TX: 0 packets, 0 errors
  RX: 0 packets, 0 errors
PPP channel 0 traffic statistics:
  TX: 0 packets, 0 errors
  RX: 0 packets, 0 errors
```

Table 5 Command output

Field	Description
Cellular2/4/0 Current state	Status of the interface: • DOWN(Administratively)—The interface has been administratively shut down by using the shutdown command. • DOWN—The interface is administratively up but its physical state is down, possibly because of a connection or link failure. • UP—The administrative and physical states of the interface are both up.
Description	Description of the interface.
Modem status	Status of the USB 3G/4G modem: • Present—The modem is present. • Absent—The modem is absent.
DM port status	DM status: • Enabled. • Disabled.
Capability: 1 Control channel, 1 PPP channel	Type and number of channels the cellular interface supports: • 1 Control channel—Supports one control channel. • 1 PPP channel—Supports one asynchronous serial subchannel. • 1 ETH channel—Supports one Ethernet subchannel.
Control channel 0 traffic statistics: TX: 0 packets, 0 errors RX: 0 packets, 0 errors	Control channel statistics: • TX: 0 packets, 0 errors—Number of packets and number of error packets sent through the control channel. • RX: 0 packets, 0 errors—Number of packets and number of error packets received through the control channel.

Field	Description
PPP channel 0 traffic statistics TX: 0 packets, 0 errors RX: 0 packets, 0 errors	PPP channel statistics: TX: 0 packets, 0 errors—Number of packets and number of error packets sent through the PPP channel. RX: 0 packets, 0 errors—Number of packets and number of error packets received through the PPP channel.
ETH channel 0 traffic statistics TX: 0 packets, 0 errors RX: 0 packets, 0 errors	Ethernet channel statistics: TX: 0 packets, 0 errors—Number of packets and number of error packets sent through the Ethernet channel. RX: 0 packets, 0 errors—Number of packets and number of error packets received through the Ethernet channel.

Related commands

reset counters controller cellular

dm-port open

Use **dm-port open** to enable diagnostic and monitoring (DM) on a 3G/4G modem.

Use **undo dm-port open** to disable DM on a 3G/4G modem.

Syntax

dm-port open

undo dm-port open

Default

The default setting for this command depends on the modem model.

Views

Cellular interface view

Predefined user roles

network-admin

Usage guidelines

Enabling DM on a 3G/4G modem allows third-party debugging tools to diagnose and monitor the 3G/4G modem through cellular interface debugging output.

Examples

```
# Enable DM on a 3G/4G modem.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] dm-port open
```

mode

Use **mode** to specify network services for a 3G/4G modem.

Syntax

mode { 1xrtt | auto | evdo | gsm | gsm-precedence | hybrid | lte | td | td-precedence | wcdma | wcdma-precedence }

Default

The default setting for this command depends on the modem model.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

1xrtt: Connects to a CDMA-1x RTT network only.

auto: Connects to a network automatically.

evdo: Connects to a CDMA-EVDO network only.

gsm: Connects to a GSM network only.

gsm-preference: Connects to a GSM network with preference.

hybrid: Connects to the CDMA-EVDO and CDMA-1xRTT networks only.

lte: Connects to an LTE network only.

td: Connects to a TD-SCDMA network only.

td-preference: Connects to a TD-SCDMA network with preference.

wcdma: Connects to a WCDMA network only.

wcdma-preference: Connects to a WCDMA network with preference.

Usage guidelines

The available parameters depend on the modem model.

Examples

```
# Specify the LTE service for the 4G modem.  
<Sysname> system-view  
[Sysname] controller cellular 2/4/0  
[Sysname-Cellular2/4/0] mode lte
```

modem reboot

Use **modem reboot** to reboot a 3G/4G modem.

Syntax

modem reboot

Views

Cellular interface view

Predefined user roles

network-admin

Usage guidelines

A 3G/4G modem module can automatically detect running errors and reboot. If the 3G/4G modem fails to reboot by itself, you can use this command to reboot it.

Examples

```
# Manually reboot the 3G/4G modem.
```

```
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] modem reboot
```

modem response

Use **modem response** to set a 3G/4G modem response timer and a consecutive response failure threshold for auto recovery.

Use **undo modem response** to restore the default.

Syntax

```
modem response timer time auto-recovery threshold
undo modem response
```

Default

The response timer is 10 seconds and the consecutive response failure threshold is 3.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

timer *time*: Sets the response timer, in the range of 1 to 300, in seconds.

auto-recovery *threshold*: Specifies the consecutive response failure threshold for auto recovery. The value range for the *threshold* argument is 0 to 10. To disable auto recovery, set the value to 0.

Usage guidelines

A 3G/4G modem might malfunction in an unstable 3G/4G network or when the application environment changes. During a malfunction, the modem cannot respond to the device's requests or configuration commands. If the device does not receive any responses from the 3G/4G modem within the timer, a response failure occurs. When the number of consecutive response failures reaches the threshold, the device restarts the 3G/4G modem automatically. This releases the user from manually rebooting the modem.

The device does not restart the 3G/4G modem when the 3G/4G modem has not made a successful dialup since the last restart. This restriction avoids repeated restarts of the 3G/4G modem when there are configuration errors.

Examples

```
# Set the response timer to 20 seconds and the consecutive response failure threshold for auto recovery to 4.
```

```
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] modem response timer 20 auto-recovery 4
```

pin modify

Use **pin modify** to modify the PIN of a SIM/UIM card.

Syntax

```
pin modify current-pin new-pin
```

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

current-pin: Specifies the current PIN of the SIM/UIM card, a string of 4 to 8 digits.

new-pin: Specifies the new PIN, a string of 4 to 8 digits.

Usage guidelines

The new PIN is saved on the SIM/UIM card.

If PIN verification is enabled, execute the **pin verify** command to save the new PIN on the device after the PIN is modified.

Failure to modify the PIN in a maximum number of attempts locks the SIM/UIM card. The maximum number of attempts depend on the 3G/4G modem model. To unlock the card, execute the **pin unlock** command.

For some 3G/4G modems, you can modify their PINs only when the 3G/4G modems pass the PIN authentication.

Examples

```
# Modify the PIN of a SIM/UIM card.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] pin modify 1234 4321
PIN will be changed to "4321". Continue? [Y/N]:y
PIN has been changed successfully.
```

Related commands

pin unlock

pin verification enable

pin verify

pin unlock

Use **pin unlock** to specify the Personal Unlock Code (PUK) to unlock a SIM/UIM card.

Syntax

pin unlock *puk new-pin*

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

puk: Specifies the PUK of the SIM/UIM card, a string of 4 to 8 digits. The PUK code of a SIM/UIM card is provided by the network service provider.

new-pin: Specifies the new PIN, a string of 4 to 8 digits.

Usage guidelines

A SIM/UIM card will be locked in the following circumstances:

- Consecutive PIN modification failures.
- Consecutive failures for enabling or disabling PIN authentication.
- Consecutive PIN authentication failures.

If the SIM/UIM card is locked, the 3G modem cannot be used. To unlock the card, you can use the **pin unlock** command. The new PIN is saved on the SIM/UIM card.

If PIN verification is enabled, use the **pin verify** command to save the new PIN on the device after the SIM/UIM card is unlocked.

If you consecutively fail to unlock a card by using the PUK, the card will be locked permanently. To unlock a permanently locked card, contact the service provider of the card.

Examples

```
# Use the PUK to unlock a SIM/UIM card.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] pin unlock 87654321 1234
PIN will be unlocked and changed to "1234". Continue? [Y/N]:y
PIN has been unlocked and changed successfully.
```

Related commands

pin modify

pin verification enable

pin verification enable

Use **pin verification enable** to enable PIN verification for a 3G/4G modem.

Use **undo pin verification enable** to disable PIN verification for a 3G/4G modem.

Syntax

```
pin verification enable [ pin ]
undo pin verification enable [ pin ]
```

Default

The default setting for this command depends on the modem model.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

pin: Specifies the PIN of the SIM/UIM card, a string of 4 to 8 digits.

Usage guidelines

If PIN verification is enabled, PIN verification is performed after you perform any of the following tasks:

- Install a 3G/4G modem.
- Reboot the device.

- Execute the **modem reboot** command to reboot a 3G/4G modem.
- Hot swap a USB 3G/4G modem.
- Cold boot the device where a SIC-3G/4G modem is installed.

To perform PIN verification, you also need to execute the **pin verify** command to save the PIN of the SIM/UIM card on the device. After the PIN is saved on the device, the PIN is used for verification automatically when required.

You might be required to provide the current PIN when you enable or disable PIN verification. Consecutive failures for enabling or disabling PIN verification lock a SIM/UIM card. To unlock the card, execute the **pin unlock** command.

For some 3G/4G modems, you can disable PIN verification only when the 3G/4G modems pass PIN authentication.

Examples

```
# Enable PIN authentication.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] pin verification enable 1234
```

Related commands

pin unlock
pin verify

pin verify

Use **pin verify** to specify the PIN of a SIM/UIM card on a 3G/4G modem.

Use **undo pin verify** to restore the default.

Syntax

```
pin verify { cipher | simple } string
undo pin verify
```

Default

No PIN is specified for a SIM/UIM card.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

cipher *ciphered-pin*: Specifies a PIN in encrypted form.

simple *pin*: Specifies a PIN in plaintext form. For security purposes, the PIN specified in plaintext form will be stored in encrypted form.

string: Specifies the PIN. Its plaintext form is 4 to 8 digits long. Its encrypted form is a string of 37 to 41 characters.

Usage guidelines

This command saves the PIN of the SIM/UIM card on the device. The PIN is used for verifying the 3G/4G modem when PIN verification is performed. You can execute this command before or after you enable PIN verification.

Consecutive PIN verification failures might lock a SIM/UIM card. To unlock the card, execute the **pin unlock** command.

Examples

```
# Specify the plaintext form PIN 1234 for the SIM/UIM card.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] pin verify simple 1234
```

Related commands

pin unlock
pin verification enable

plmn search

Use **plmn search** to search for available mobile networks.

Syntax

plmn search

Views

Cellular interface view

Predefined user roles

network-admin

Usage guidelines

Before you use a 3G/4G modem to access a mobile network, use the **plmn search** command to search a PLMN for available mobile networks. The search takes a few minutes. After the search is complete, the CLI displays the available mobile networks. Some 3G/4G modems automatically access an available network. You can also specify a mobile network for the 3G/4G modem from the available mobile networks.

Examples

```
# Search for mobile networks on Cellular 2/4/0.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] plmn search
PLMN search done.
Available PLMNs:
PLMN No.      MCC      MNC      Status    Type
01             460      00      Current   GSM
02             460      00      Available UTRAN
03             460      01      Forbidden GSM
```

Table 6 Command output

Field	Description
PLMN No	PLMN number.
MCC	Mobile Country Code.

Field	Description
MNC	Mobile Network Code: • 00, 02, and 07—China Mobile. • 01—China Unicom. • 03—China Telecom.
Status	Status of the mobile network: • Current. • Available. • Forbidden.
Type	Type of the mobile network.

Related commands

display cellular
plmn select

plmn select

Use **plmn select** to configure the mobile network selection mode.

Syntax

plmn select { auto | manual *mcc mnc* }

Default

The default setting for this command depends on the modem model.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

auto: Specifies the auto selection mode. The 3G modem automatically selects a mobile network.

manual: Specifies the manual selection mode.

mcc: Specifies the mobile country code (MCC) in the range of 0 to 65535.

mnc: Specifies the mobile network code (MNC) in the range of 0 to 65535.

Usage guidelines

For manual selection, you can first use the **plmn search** command to obtain the MCC and MNC of a mobile network.

Examples

```
# Manually specify a mobile network.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] plmn select manual 65524 65524
```

Related commands

display cellular

plmn search

reset counters controller cellular

Use **reset counters controller cellular** to clear statistics on cellular interfaces.

Syntax

reset counters controller cellular [*interface-number*]

Views

User view

Predefined user roles

network-admin

Parameters

cellular [*interface-number*]: Specifies cellular interfaces or a cellular interface by its number. If you do not specify the *interface-number* argument, this command clears statistics on all cellular interfaces. If you specify the *interface-number* argument, this command clears statistics on the specified cellular interface.

Usage guidelines

To collect traffic statistics on an interface during a period of time, first use the **reset counters controller cellular** command to clear the existing statistics on the interface.

Examples

```
# Clear statistics on Cellular 2/4/0.  
<Sysname> reset counters controller cellular 2/4/0
```

Related commands

display controller cellular

rsSI

Use **rsSI** to set the RSSI thresholds for a 3G/4G modem.

Use **undo rsSI** to restore the default.

Syntax

```
rsSI { 1xrtt | evdo | gsm | lte } { low lowthreshold | medium mediumthreshold }  
*  
undo rsSI { 1xrtt | evdo | gsm | lte } [ low | medium ]
```

Default

The lower and upper RSSI thresholds for a 3G/4G modem are -150 dBm and 0 dBm, respectively.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

1xrtt: Specifies the 1xRTT mode.

evdo: Specifies the EVDO mode.

gsm: Specifies the GSM mode.

lte: Specifies the LTE mode.

low *lowthreshold*: Specifies the lower RSSI threshold value in the range of 0 to 150, which represents a lower RSSI threshold in the range of –150 dBm to 0 dBm. The value of *lowthreshold* cannot be smaller than the value of *mediumthreshold* because the system automatically adds a negative sign to the RSSI thresholds.

medium *mediumthreshold*: Specifies the upper RSSI threshold value in the range of 0 to 150, which represents an upper RSSI threshold in the range of –150 dBm to 0 dBm.

Usage guidelines

The device performs the following operations based on the actual RSSI of the 3G/4G modem:

- Sends a trap that indicates high RSSI when the RSSI exceeds the upper threshold.
- Sends a trap that indicates normal RSSI when the RSSI is between the lower threshold and upper threshold (included).
- Sends a trap that indicates low RSSI when the RSSI drops to or below the lower threshold.
- Sends a trap that indicates low RSSI every 10 minutes when the RSSI remains equal to or smaller than the lower threshold.

To view the RSSI change information for a 3G/4G modem, use the **display cellular** command.

Examples

```
# Set the lower threshold for a 3G/4G modem in GSM mode to –110 dBm.
<Sysname> system-view
[Sysname] controller cellular 0/0
[Sysname-Cellular0/0] rssi gsm low 110
```

sendat

Use **sendat** to issue a configuration directive to a 3G/4G modem.

Syntax

sendat *at-string*

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

at-string: Specifies a configuration directive string, a string of 1 to 300 characters. This argument can be an AT directive (containing **+++**, **A/**, or be any string beginning with **AT**) or a CNS directive. For more information about AT directives, see the **sendat** command in *Layer 2—WAN Access Command Reference*. [Table 7](#) describes the CNS directive samples. The format of this argument depends on the device model.

Table 7 CNS directive description

Directive	Description
CNSn	Controls the CNS heartbeat debugging switch. n = 00000500000000000000—Enables CNS heartbeat debugging. n = 00000800000000000000—Disables CNS heartbeat debugging.

Usage guidelines

The **sendat** command does not verify the configuration directive. Each time it issues one configuration directive to the 3G/4G modem, lowercase characters are automatically converted to uppercase characters.

One **sendat** command issues one configuration directive. To issue multiple configuration directives to a modem, you must repeat the **sendat** command.

Configuration directives might cause malfunction of a 3G/4G modem. When you issue a configuration directive to the modem, make sure you understand the impact on the 3G/4G modem.

Examples

```
# Issue the ATD169 directive to the 3G/4G modem to call number 169.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] sendat ATD169

# Issue the cns00000500000000000000 directive to the 3G/4G modem to enable CNS heartbeat debugging.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] sendat cns00000500000000000000
```

shutdown

Use **shutdown** to shut down a cellular interface.

Use **undo shutdown** to bring up a cellular interface.

Syntax

shutdown

undo shutdown

Default

The cellular interface is up.

Views

Cellular interface view

Predefined user roles

network-admin

Examples

```
# Shut down Cellular 2/4/0.
<Sysname> system-view
[Sysname] interface cellular 2/4/0
[Sysname-Cellular2/4/0] shutdown
```

sim backup enable track

Use **sim backup enable track** to associate 3G/4G link backup with a track entry.

Use **undo sim backup enable** to restore the default.

Syntax

```
sim backup enable track entry-number  
undo sim backup
```

Default

3G/4G link backup is not associated with a track entry.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

entry-number: Specifies a track entry by its ID in the range of 1 to 1024.

Usage guidelines

This command uses a track entry to monitor the status of the primary 3G/4G link. When the track entry state changes from Positive to Negative, the secondary 3G/4G link takes over. For information about track entries, see track configuration in *High Availability Configuration Guide*.

You can associate only one track entry with a 3G/4G link. If you execute this command multiple times, the most recent configuration takes effect.

The association takes effect only after the track entry is created.

Examples

```
# Associate Cellular 1/0 with track entry 1.  
<sysname> system  
[system] controller cellular 1/0  
[system-Cellular1/0] sim backup enable track 1
```

Related commands

```
sim switch-back enable  
sim switch-to
```

sim switch-back enable

Use **sim switch-back enable** to enable automatic switchback to the primary SIM card.

Use **undo sim switch-back enable** to disable automatic switchback to the primary SIM card.

Syntax

```
sim switch-back enable [ wait-time time ]  
undo sim switch-back enable
```

Default

Automatic switchback to the primary SIM card is disabled.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

time: Specifies the length of time for using the secondary SIM card. The value is in the range of 1 to 65535, in minutes. The default value is 60. After the time expires, the device automatically switches back to the primary SIM card.

Usage guidelines

This command allows the device to automatically switch back to the primary SIM card after the specified length of time for using the secondary SIM card. To avoid frequent primary/secondary switchovers, make sure the link of the primary SIM card can recover after the specified length of time.

Examples

Enable the device to automatically switch back to the primary SIM card after 100 minutes of using the secondary SIM card.

```
<Sysname> system-view
```

```
[Sysname] controller cellular 1/0
```

```
[Sysname-Cellular1/0] sim switch-back enable wait-time 100
```

sim switch-to

Use **sim switch-to** to specify the primary or secondary SIM card.

Syntax

sim switch-to *card-number*

Default

The primary SIM card is used.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

card-number: Specifies a SIM card by its slot number. The value is 0 or 1. 0 represents the primary SIM card. 1 represents the secondary SIM card.

Usage guidelines



CAUTION:

This command might cause traffic interruption. Be aware of the impact of this command before executing it.

On a device that uses dual SIM card, you can execute this command to specify the use of the secondary SIM card when one of the following problems occurs:

- The 3G/4G link signals of the primary SIM card are weak.
- The service provider network that the primary SIM card connects to is unavailable.

- The primary SIM card has failed.

If the problems of the primary SIM card are resolved, you can use this command to specify the use of the primary SIM card.

Examples

```
# Specify the secondary SIM card for the device.
<Sysname> system-view
[Sysname] controller cellular 1/0
[Sysname-Cellular1/0] sim switch-to 1
```

trust-imsi

Use **trust-imsi** to configure a trusted IMSI.

Use **undo trust-imsi** to remove a trusted IMSI.

Syntax

```
trust-imsi string-imsi
undo trust-imsi [string-imsi]
```

Default

No trusted IMSI is configured.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

string-imsi: Specifies an IMSI. The *string-imsi* argument is a case-insensitive string of 1 to 31 characters.

Usage guidelines

For a successful dialup, configure the IMSI of the SIM card as a trusted IMSI.

You can configure a maximum of 16 trusted IMSIs.

Examples

```
# Configure trusted IMSI hccc123456789 for Cellular 0/0.
<Sysname> system-view
[Sysname] controller cellular 0/0
[Sysname-Cellular0/0] trust-imsi hccc123456789
```

3G modem-specific management commands

gsm band

Use **gsm band** to specify a GSM frequency band.

Use **undo gsm band** to restore the default.

Syntax

```
gsm band { egsm900 | gsm450 | gsm480 | gsm750 | gsm850 | gsm1800 | gsm1900 |  
pgsm900 | rsgm900 }  
undo gsm band
```

Default

No GSM band is specified.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

egsm900: Specifies the E-GSM 900 MHz band.

gsm450: Specifies the GSM 450 MHz band.

gsm480: Specifies the GSM 480 MHz band

gsm750: Specifies the GSM 750 MHz band.

gsm850: Specifies the GSM 850 MHz band.

gsm1800: Specifies the GSM 1800 MHz band.

gsm1900: Specifies the GSM 1900 MHz band.

pgsm900: Specifies the P-GSM 900 MHz band.

rsgm900: Specifies the GSM-R 900 MHz band.

Usage guidelines

This command is supported only by Sierra MC7354 (ATT version) and MC7304 4G modules.

Multiple frequency bands are available for accessing the GSM network. When the network environment changes, the 3G/4G modem might change the working band automatically to adapt to the change. To avoid link instability caused by frequency changes, you can specify a GSM band for the 3G/4G modem.

Examples

```
# Specify the GSM 1800 MHz band for the 3G/4G modem.  
<Sysname> system-view  
[Sysname] controller cellular 0/0  
[Sysname-Cellular0/0] gsm band gsm1800
```

Related commands

```
lte band  
wcdma band
```

profile create

Use **profile create** to create a profile for the 3G modem.

Syntax

```
profile create profile-number { dynamic | static apn } authentication-mode  
{ none | { chap | pap } user username [ password password ] }
```

Default

The default setting for this command depends on the modem model.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

profile-number: Specifies a profile number. The value range varies by the modem model.

dynamic: Uses an access point automatically assigned by the service provider.

static apn: Specifies the access point provided by the service provider. It is a string of 1 to 100 characters. Whether the string is case-sensitive varies by service providers.

authentication-mode: Specifies the authentication mode, which can be **none**, **pap**, or **chap**.

none: Performs no authentication.

chap: Specifies CHAP authentication.

pap: Specifies PAP authentication.

user username: Specifies the username provided by the service provider. It is a case-sensitive string of 1 to 32 characters.

password password: Specifies the authentication password provided by the service provider. It is a case-sensitive string of 1 to 32 characters.

Usage guidelines

If you specify **chap** or **pap**, make sure the authentication settings are identical to those assigned by the service provider.

Examples

```
# Create a profile for Cellular 2/4/0. Specify the profile number as 1 and the access point name as cmnet, and specify the PAP authentication mode.
```

```
<Sysname> system-view
```

```
[Sysname] controller cellular 2/4/0
```

```
[Sysname-Cellular2/4/0] profile create 1 static cmnet authentication-mode pap user abc password abc
```

Related commands

display cellular

profile delete

profile delete

Use **profile delete** to delete a profile for the 3G modem.

Syntax

profile delete *profile-number*

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

profile-number: Specifies a profile by its number. The value range varies by the modem model.

Examples

```
# Delete profile 1 for Cellular 2/4/0.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] profile delete 1
```

Related commands

display cellular
profile create

profile main

Use **profile main** to specify the primary and backup profiles for 3G modem dialup.

Use **undo profile main** to restore the default.

Syntax

```
profile main profile-M-number backup profile-B-number  
undo profile main
```

Default

Profile 1 is used for 3G modem dialup.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

main *profile-M-number*: Specifies the primary profile by its number. The value range varies by the modem model.

backup *profile-B-number*: Specifies the backup profile by its number. The value range varies by the modem model.

Usage guidelines

The primary profile always has priority over the backup profile. For each dialup connection establishment, the 3G modem uses the backup profile only when it has failed to dial up using the primary profile.

You must configure the same user name and password for the primary and backup profiles.

This command takes effect only on dialup connections initiated after the command is configured. It does not take effect on a dialup connection that has been established.

Examples

```
# Specify the profiles numbered 1 and 2 as the primary and backup profiles, respectively.
<sysname>system-view
[sysname]interface Cellular 2/4/0
```

[sysname-Cellular2/4/0]profile main 1 backup 2

serial-set

Use **serial-set** to channelize a cellular interface into a synchronous/asynchronous serial interface.

Use **undo serial-set** to delete a synchronous/asynchronous serial interface channelized from a cellular interface.

Syntax

serial-set *set-number*

undo serial-set *set-number*

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

set-number: Specifies the serial interface number. The value range and the default setting for this argument depend on the device model.

Usage guidelines

The command names the serial interface as **serial** *cellular-number: set-number*.

Examples

Channelize Cellular 2/4/0 into a serial interface.

```
<Sysname> system-view
```

```
[Sysname] controller cellular 2/4/0
```

```
[Sysname-Cellular2/4/0] serial-set 0
```

wcdma band

Use **wcdma band** to specify a WCDMA band.

Use **undo wcdma band** to restore the default.

Syntax

wcdma band { **wcdma800** | **wcdma850** | **wcdma900** | **wcdma1700ip** | **wcdma1700us** | **wcdma1800** | **wcdma1900** | **wcdma2100** | **wcdma2600** }

undo wcdma band

Default

No WCDMA band is specified.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

wcdma800: Specifies the WCDMA 800 MHz band.

wcdma850: Specifies the WCDMA 850 MHz band.

wcdma900: Specifies the WCDMA 900 MHz band.

wcdma1700jp: Specifies the Japan WCDMA 1700 MHz band.

wcdma1700us: Specifies the US WCDMA 1700 MHz band.

wcdma1800: Specifies the WCDMA 1800 MHz band.

wcdma1900: Specifies the WCDMA 1900 MHz band.

wcdma2100: Specifies the WCDMA 2100 MHz band.

wcdma2600: Specifies the WCDMA 2600 MHz band.

Usage guidelines

This command is supported only by Sierra MC7354 (ATT version) and MC7304 4G modules.

Multiple frequency bands are available for accessing the WCDMA network. When the network environment changes, the 3G/4G modem might change the working band automatically to adapt to the change. To avoid link instability caused by frequency changes, you can specify a WCDMA band for the 3G/4G modem.

Examples

```
# Specify the WCDMA 1700 MHz band for the 3G/4G modem.  
<Sysname> system-view  
[Sysname] controller cellular 0/0  
[Sysname-Cellular0/0] wcdma band wcdma1700
```

Related commands

gsm band

lte band

4G modem-specific management commands

apn

Use **apn** to specify an access point name (APN) for a 4G modem.

Use **undo apn** to remove an APN.

Syntax

apn { dynamic | static *apn* }

undo apn

Default

No APN is specified for a 4G modem.

Views

4G modem profile view

Predefined user roles

network-admin

Parameters

dynamic: Uses an APN automatically assigned by the service provider.

static apn: Specifies the APN provided by the service provider. The *apn* argument is a string of 1 to 100 characters. Whether the string is case-sensitive depends on the service provider.

Examples

```
# Specify APN apn1 for 4G modem profile test.
<Sysname> system-view
[Sysname] apn-profile test
[Sysname-apn-profile-test] apn static apn1
```

Related commands

apn-profile

apn-profile

Use **apn-profile** to create a 4G modem profile.

Use **undo apn-profile** to remove a 4G modem profile.

Syntax

```
apn-profile profile-name
undo apn-profile profile-name
```

Default

No 4G modem profile exists.

Views

System view

Predefined user roles

network-admin

Parameters

profile-name: Specifies a 4G modem profile name.

Usage guidelines

A 4G modem profile takes effect only after you apply the profile to a 4G interface. To remove a 4G modem profile, you must first remove the association between the profile and the 4G interface.

Examples

```
# Create 4G modem profile test.
<Sysname> system-view
[Sysname] apn-profile test
```

Related commands

apn-profile apply

apn-profile apply

Use **apn-profile apply** to specify 4G modem profiles for an interface.

Use **undo apn-profile apply** to restore the default.

Syntax

```
apn-profile apply profile-name [ backup profile-name ]
```

undo apn-profile apply

Default

No 4G modem profiles are specified for an interface.

Views

Eth-channel interface view

Predefined user roles

network-admin

Parameters

profile-name: Specifies a primary 4G modem profile name.

backup profile-name: Specifies a backup 4G modem profile name.

Usage guidelines

After you specify a 4G modem profile for a 4G modem, the 4G modem uses the settings in the profile to negotiate with the service provider's device.

A primary profile always has priority over a backup profile. For each dialup connection establishment, the 4G modem uses the backup profile only when it has failed to dial up using the primary profile.

This command takes effect only on dialup connections initiated after the command is configured. It does not take effect on a dialup connection that has been established.

Examples

Specify primary 4G modem profile **test** and backup 4G modem profile **bktest** for Eth-channel interface 2/4/0:0.

```
<Sysname> system-view
```

```
[Sysname] interface eth-channel 2/4/0:0
```

```
[Sysname-Eth-channel2/4/0:0] apn-profile apply test backup bktest
```

Related commands

apn-profile

attach-format imsi-sn split

Use **attach-format imsi-sn split** to specify a delimiter for the IMSI/SN binding authentication information.

Use **undo attach-format imsi-sn split** to restore the default.

Syntax

attach-format imsi-sn split *splitchart*

undo attach-format imsi-sn split

Default

No delimiter is specified for the IMSI/SN binding authentication information.

Views

4G modem profile view

Predefined user roles

network-admin

Parameters

split *splitchart*: Specifies a delimiter. It can be a letter, a digit, or a sign such as a percent sign (%) or a pound sign (#).

Usage guidelines

If IMSI/SN binding authentication is enabled, the IMSI/SN information is included in the authentication information in addition to the username. You need to configure a delimiter to separate different types of information. For example, if you specify the delimiter as #, the authentication information will be sent in the `imsiinfo#sninfo#username` format.

Examples

```
# Configure the pound sign (#) as the delimiter for the IMSI/SN binding authentication information.
<Sysname> system-view
[Sysname] apn-profile test
[Sysname-apn-profile-test] attach-format imsi-sn split #
```

Related commands

apn-profile

authentication-mode

Use **authentication-mode** to specify an authentication mode for accessing a 4G network.

Use **undo authentication-mode** to restore the default.

Syntax

```
authentication-mode { pap | chap | pap-chap } user user-name password
{ cipher | simple } string
undo authentication-mode
```

Default

No authentication mode is specified for accessing a 4G network.

Views

4G modem profile view

Predefined user roles

network-admin

Parameters

chap: Specifies CHAP authentication.

pap: Specifies PAP authentication.

pap-chap: Specifies CHAP or PAP authentication.

user *username*: Specifies the username for authentication, a case-sensitive string of 1 to 32 characters.

cipher: Specifies a password in encrypted form.

simple: Specifies a password in plaintext form. For security purposes, the password specified in plaintext form will be stored in encrypted form.

string: Specifies the password. Its plaintext form is a case-sensitive string of 1 to 32 characters. Its encrypted form is a case-sensitive string of 1 to 73 characters

Examples

Specify the CHAP authentication mode for 4G modem profile **test**. Specify the username as **user1** and the password as **123456**.

```
<Sysname> system-view
```

```
[Sysname] apn-profile test
```

```
[Sysname-apn-profile-test] authentication-mode chap user user1 password simple 123456
```

Related commands

apn-profile

bandwidth

Use **bandwidth** to configure the expected bandwidth for an Eth-channel interface.

Use **undo bandwidth** to restore the default.

Syntax

bandwidth *bandwidth-value*

undo bandwidth

Default

The expected bandwidth (in kbps) is the interface baud rate divided by 1000.

Views

Eth-channel interface view

Predefined user roles

network-admin

Parameters

bandwidth-value: Specifies the expected bandwidth in the range of 1 to 400000000 kbps.

Usage guidelines

The expected bandwidth for an interface affects the link costs in OSPF, OSPFv3, and IS-IS. For more information, see *Layer 3—IP Routing Configuration Guide*.

Examples

Set the expected bandwidth for Eth-channel 2/4/0:0 to 1000 kbps.

```
<Sysname> system-view
```

```
[Sysname] interface eth-channel 2/4/0:0
```

```
[Sysname-Eth-channel2/4/0:0] bandwidth 1000
```

default

Use **default** to restore the default settings for an interface.

Syntax

default

Views

Eth-channel interface view

Predefined user roles

network-admin

Usage guidelines

CAUTION:

The **default** command might interrupt ongoing network services. Make sure you are fully aware of the impact of this command before using it on a live network.

This command might fail to restore the default settings for some commands for reasons such as command dependencies and system restrictions. Use the **display this** command in interface view to identify these commands. Then, use their **undo** forms or follow the command reference to individually restore their default settings. If your restoration attempt fails, follow the error message instructions to resolve the problem.

Examples

```
# Restore the default settings for Eth-channel 2/4/0:0.
<Sysname> system-view
[Sysname] interface eth-channel 2/4/0:0
[Sysname-Eth-channel2/4/0:0] default
```

description

Use **description** to configure the description of an interface.

Use **undo description** to restore the default.

Syntax

```
description text
undo description
```

Default

The description for an interface is in the *interface name* Interface format, for example, Echannel 2/4/0:0 Interface.

Views

Eth-channel interface view

Predefined user roles

network-admin

Parameters

text: Sets an interface description, a case-sensitive string of 1 to 255 characters.

Usage guidelines

Configure the description of an interface for easy identification and management purposes.

You can use the **display interface** command to view the description for an interface.

Examples

```
# Configure the description for Eth-channel 2/4/0:0 as Echannel-interface.
<Sysname> system-view
[Sysname] interface eth-channel 2/4/0:0
[Sysname-Eth-channel2/4/0:0] description Echannel-interface
```

display interface eth-channel

Use **display interface eth-channel** to display information about the specified or all Eth-channel interfaces.

Syntax

```
display interface [ eth-channel [ channel-id ] ] [ brief [ description | down ] ]
```

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

eth-channel [*channel-id*]: Specifies Eth-channel interfaces or an Eth-channel interface by its number. If you do not specify the **eth-channel** keyword, the command displays information about all interfaces. If you specify the **eth-channel** keyword but not the *channel-id* argument, this command displays information about all Eth-channel interfaces.

brief: Displays brief interface information. If you do not specify this keyword, the command displays detailed interface information.

description: Displays complete interface descriptions. If you do not specify this keyword, the command displays only the first 27 characters of interface descriptions.

down: Displays information about interfaces in down state and the causes. If you do not specify this keyword, the command displays information about interfaces in all states.

Examples

Display detailed information about Eth-channel 2/4/0:0, including its operating status.

```
<Sysname> display interface eth-channel 2/4/0:0
Echannel2/4/0:0
Current state: DOWN
Line protocol state: DOWN
Description: Echannel2/4/0:0 Interface
Bandwidth: 1000000kbps
Maximum Transmit Unit: 1500
Internet protocol processing: disabled
IP Packet Frame Type:PKTFMT_ETHNT_2, Hardware Address: 000c-2963-b75d
IPv6 Packet Frame Type:PKTFMT_ETHNT_2, Hardware Address: 000c-2963-b75d
Output queue - Urgent queuing: Size/Length/Discards 0/100/0
Output queue - Protocol queuing: Size/Length/Discards 0/500/0
Output queue - FIFO queuing: Size/Length/Discards 0/75/0
Last link flapping: Never
Last clearing of counters: Never
Last 300 seconds input rate 0.00 bytes/sec, 0.00 packets/sec
Last 300 seconds output rate 0.00 bytes/sec, 0.00 packets/sec
Input: 0 packets, 0 bytes, 0 buffers
Output:0 packets, 0 bytes
```

Display brief information about Eth-channel 2/4/0:0.

```

<Sysname> display interface eth-channel 2/4/0:0 brief
Brief information on interface(s) under route mode:
Link: ADM - administratively down; Stby - standby
Protocol: (s) - spoofing
Interface          Link Protocol Main IP      Description
Echannel2/4/0:0    UP    UP(s)    192.168.80.239

# Display information about all Eth-channel interfaces in down state and the causes.
<Sysname> display interface eth-channel brief down
Brief information on interface(s) under route mode:
Link: ADM - administratively down; Stby - standby
Interface          Link Cause
Echannel2/4/0:0    ADM  Administratively

```

Table 8 Command output

Field	Description
Current state	Physical link state of the interface: • Administratively DOWN—The interface has been shut down by using the shutdown command. • DOWN—The interface is administratively up, but its physical state is down (possibly because no physical link exists or the link has failed). • UP—The interface is both administratively and physically up.
Line protocol state	Data link layer state of the interface. The state is determined through automatic parameter negotiation at the data link layer. • UP—The data link layer protocol is up. • UP (spoofing)—The data link layer protocol is up, but the link is an on-demand link or does not exist. This attribute is typical of null interfaces and loopback interfaces. • DOWN—The data link layer protocol is down.
Description	Description for the interface.
Bandwidth	Expected bandwidth of the interface.
Maximum Transmit Unit	MTU of the interface.
Internet protocol processing: disabled	The interface is not assigned an IP address and cannot process IP packets.
Internet Address is 192.168.1.200/24 Primary	IP address of the interface. The primary attribute indicates that the address is the primary IP address..
IP Packet Frame Type	IPv4 packet framing format.
Hardware Address	MAC address of the interface.
IPv6 Packet Frame Type	IPv6 packet framing format.
Output queue - Urgent queuing: Size/Length/Discards	Packet statistics for urgent queuing in the output queue of the interface: • Size—Current number of packets in the queue. • Length—Maximum number of packets that can stay in the queue. • Discards—Number of dropped packets.

Field	Description
Output queue - Protocol queuing: Size/Length/Discards	Packet statistics for protocol queuing in the output queue of the interface: • Size—Current number of packets in the queue. • Length—Maximum number of packets that can stay in the queue. • Discards—Number of dropped packets.
Output queue - FIFO queuing: Size/Length/Discards	Packet statistics for FIFO queuing in the output queue of the interface: • Size—Current number of packets in the queue. • Length—Maximum number of packets that can stay in the queue. • Discards—Number of dropped packets.
Last link flapping	The amount of time that has elapsed since the most recent physical state change of the interface. This field displays Never if the interface has been physically down since device startup.
Last clearing of counters	Time when statistics on the logical interface were last cleared by using the reset counters interface command. If the statistics of the interface have never been cleared by using the reset counters interface command since the device started, this field displays Never.
Last 300 seconds input rate	Average input rate during the last 300 seconds: • bytes/sec—Average number of received bytes per second. • bits/sec—Average number of received bits per second. • packets/sec—Average number of received packets per second.
Last 300 seconds output rate	Average output rate over the last 300 seconds: • bytes/sec—Average number of sent bytes per second. • bits/sec—Average number of sent bits per second. • packets/sec—Average number of sent packets per second.
Input: 0 packets, 0 bytes, 0 buffers	Incoming packet statistics: • 0 packets—Packet number. • 0 bytes—Packet size in bytes. • 0 buffers—Number of buffered units.
Output: 0 packets, 0 bytes	Outgoing packet statistics: • 0 packets—Packet number. • 0 bytes—Packet size in bytes.
Link	Physical link state of the interface: • UP—The interface is physically up. • DOWN—The interface is physically down. • ADM—The interface has been shut down by using the shutdown command. To restore the physical state of the interface, use the undo shutdown command. • Stby—The interface is a backup interface in standby state. To see the primary interface, use the display interface-backup state command.

Field	Description
Protocol	Data link layer protocol state of the interface: UP—The data link layer protocol of the interface is up. DOWN—The data link layer protocol of the interface is down. UP(s)—The data link layer protocol of the interface is up, but the link is an on-demand link or does not exist. The (s) attribute represents the spoofing flag. This value is typical of null interfaces and loopback interfaces.
Main IP	Main IP address of the interface.
Description	Description of the interface.
Cause	Cause for the physical link state of the interface to be DOWN . The value of the field varies by device model. Administratively represents that the interface has been manually shut down by using the shutdown command. To restore the physical state of the interface, use the undo shutdown command.

eth-channel

Use **eth-channel** to channelize a cellular interface into an Eth-channel interface.

Use **undo eth-channel** to remove the Eth-channel interface channelized from a cellular interface.

Syntax

eth-channel *channel-number*

undo eth-channel *channel-number*

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

channel-number: Specifies an Eth-channel interface by its number. The value range for this argument varies by device model.

Usage guidelines

This command names the Eth-channel interface channelized from a cellular interface as **eth-channel** *cellular-number:channel-number*.

Examples

```
# Channelize Cellular 2/4/0 into an Eth-channel interface.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] eth-channel 0
```

imsi bind

Use **imsi bind** to bind the IMSI on the SIM card to an interface.

Use **undo imsi bind** to restore the default.

Syntax

```
imsi bind interface-type interface-number  
undo imsi bind
```

Default

The IMSI on the SIM card is not bound to any interface.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

interface-type interface-number: Specifies an interface by its type and number. In the current software version, the IMSI on the SIM card can only be bound to an L2TP virtual PPP interface.

Usage guidelines

This feature is not available for distributed devices or devices operating in IRF mode.

The device must support PPP LCP negotiation of the IMSI/SI when it acts as a LAC to access the LNS in LAC-auto-initiated mode. After you bind the IMSI on the SIM card to a virtual PPP interface, the packets sent by the device carry the IMSI.

Examples

```
# Bind the IMSI on the SIM card to Virtual-PPP 1.  
<Sysname> system-view  
[Sysname] controller Cellular 0/0  
[Sysname-Cellular0/0] imsi bind virtual-ppp 1
```

interface eth-channel

Use **interface eth-channel** to enter Eth-channel interface view.

Syntax

```
interface eth-channel interface-number
```

Views

System view

Predefined user roles

network-admin

Parameters

interface-number: Specifies an Eth-channel interface by its number.

Examples

```
# Enter Eth-channel 2/4/0:0 interface view.  
<Sysname> system-view  
[Sysname] interface eth-channel 2/4/0:0  
[Sysname-Eth-channel2/4/0:0]
```

ip address cellular-alloc

Use **ip address cellular-alloc** to enable an Eth-channel interface to obtain an IP address by using the modem-manufacturer's proprietary protocol.

Use **undo ip address cellular-alloc** to restore the default.

Syntax

```
ip address cellular-alloc  
undo ip address cellular-alloc
```

Default

An Eth-channel interface does not obtain an IP address by using the modem-manufacturer's proprietary protocol.

Views

Eth-channel interface view

Predefined user roles

network-admin

Usage guidelines

To enable an interface to obtain an IP address from the modem by using the modem-manufacturer's proprietary protocol, use the **ip address cellular-alloc** command.

To enable an interface to obtain an IP address from the modem by using DHCP, use the **ip address dhcp-alloc** command.

The IP address of the modem is automatically allocated by the service provider.

Examples

Channelize Cellular 2/4/0 into an Eth-channel interface. Enable the Eth-channel interface to obtain an IP address by using the modem-manufacturer's proprietary protocol.

```
<Sysname> system-view  
[Sysname] controller cellular 2/4/0  
[Sysname-Cellular2/4/0] eth-channel 0  
[Sysname-Cellular2/4/0] quit  
[Sysname] interface eth-channel 2/4/0:0  
[Sysname-Eth-channel2/4/0:0] ip address cellular-alloc
```

ipv6 address cellular-alloc

Use **ipv6 address cellular-alloc** to enable an interface to obtain an IPv6 address by using the modem-manufacturer's proprietary protocol.

Use **undo ipv6 address cellular-alloc** to restore the default.

Syntax

```
ipv6 address cellular-alloc  
undo ipv6 address cellular-alloc
```

Default

An interface does not obtain an IPv6 address by using the modem-manufacturer's proprietary protocol.

Views

Eth-channel interface view

Predefined user roles

network-admin

Usage guidelines

To enable an interface to obtain an IPv6 address by using the modem-manufacturer's proprietary protocol, use the **ipv6 address cellular-alloc** command.

To enable an interface to obtain an IP address by using DHCP, use the **ipv6 address dhcp-alloc** command.

The IPv6 address of the modem is automatically allocated by the service provider.

Examples

Channelize Cellular 2/4/0 into an Eth-channel interface. Enable the Eth-channel interface to obtain an IPv6 address by using the modem-manufacturer's proprietary protocol.

```
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Cellular2/4/0] eth-channel 0
[Sysname-Cellular2/4/0] quit
[Sysname] interface eth-channel 2/4/0:0
[Sysname-Eth-channel2/4/0:0] ipv6 address cellular-alloc
```

Related commands

ip address cellular-alloc

lte band

Use **lte band** to specify a band for a 4G modem.

Use **undo lte band** to restore the default.

Syntax

lte band *band-number*

undo lte band

Default

The default setting for this command varies by 4G modem model.

Views

Cellular interface view

Predefined user roles

network-admin

Parameters

band-number: Specifies a band for a 4G modem. The available bands vary by modem model.

Usage guidelines

This command is supported by the following 4G modems:

- Sierra MC7354 and MC7304.
- Long Sung U8300C, U8300W, and U8300.

- WNC DM11-2.

Examples

```
# Specify band 3 for Cellular 2/4/0.
<Sysname> system-view
[Sysname] controller cellular 2/4/0
[Sysname-Controller-Cellular2/4/0] lte band 3
```

mtu

Use **mtu** to set the maximum transmission unit (MTU) for an interface.

Use **undo mtu** to restore the default.

Syntax

```
mtu size
undo mtu
```

Default

The MTU of an interface is 1500 bytes.

Views

Eth-channel interface view

Predefined user roles

network-admin

Parameters

size: Sets the MTU in bytes. The value range for this argument varies by device model.

Examples

```
# Set the MTU for Eth-channel 2/4/0:0 to 1430 bytes.
<Sysname> system-view
[Sysname] interface eth-channel 2/4/0:0
[Sysname-Eth-channel2/4/0:0] mtu 1430
```

pdp-type

Use **pdp-type** to specify the PDP data carrying protocol.

Use **undo pdp-type** to restore the default.

Syntax

```
pdp-type { ipv4 | ipv6 | ipv4v6 }
undo pdp-type
```

Default

The PDP data carrying protocol is IPv4 and IPv6.

Views

Apn-profile view

Predefined user roles

network-admin

Parameters

ipv4: Specifies the IPv4 protocol.

ipv6: Specifies the IPv6 protocol.

ipv4v6: Specifies the IPv4 and IPv6 protocols.

Examples

```
# Specify the PDP data carrying protocol as IPv4.
<Sysname> system-view
[Sysname] apn-profile 1
[Sysname-apn-profile-1] pdp-type ipv4
```

reset counters interface

Use **reset counters interface** to clear the statistics on the specified or all Eth-channel interfaces.

Syntax

```
reset counters interface [ eth-channel [ channel-id ] ]
```

Views

User view

Predefined user roles

network-admin

Parameters

eth-channel [*channel-id*]: Specifies Eth-channel interfaces or an Eth-channel interface by its number. If you do not the **eth-channel** keyword, the command clears statistics on all interfaces. If you specify the **eth-channel** keyword but not the *channel-id* argument, this command clears statistics on all Eth-channel interfaces. If you specify both the **eth-channel** keyword and the *channel-id* argument, this command clears statistics on the specified Eth-channel interface.

Usage guidelines

Use this command to clear history statistics if you want to collect traffic statistics for a specific period.

Examples

```
# Clear the statistics on Eth-channel 2/4/0:0.
<Sysname> reset counters interface eth-channel 2/4/0:0
```

shutdown

Use **shutdown** to shut down an Eth-channel interface.

Use **undo shutdown** to bring up an Eth-channel interface.

Syntax

```
shutdown
```

```
undo shutdown
```

Default

The default setting for this command depends on the device model.

Views

Eth-channel interface view

Predefined user roles

network-admin

Examples

```
# Shut down Eth-channel 2/4/0:0.  
<Sysname> system-view  
[Sysname] interface eth-channel 2/4/0:0  
[Sysname-Eth-channel2/4/0:0] shutdown
```