

WiFi Aggregation and Offload Commands

Generic Commands

description

Syntax	description <i>description-string</i> no description
Context	config>aaa>acct-on-off-grp config>aaa>radius-server-policy config>isa>wlan-gw-group config>router>radius-server>server config>router>radius-proxy>server config>service>vprn>radius-proxy>server config>service>vprn>radius-server>server config>subscr-mgmt>wlan-gw>mgw-profile config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface>group-interface>wlan-gw config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6
Description	This command creates a text description stored in the configuration file for a configuration context. The description command associates a text string with a configuration context to help identify the context in the configuration file. The no form of this command removes any description string from the context.
Default	No description is associated with the configuration context.
Parameters	<i>description-string</i> — A text string describing the entity. Allowed values are any string up to 80 characters long composed of printable, 7-bit ASCII characters excluding double quotes. If the string contains special characters (#, \$, spaces, etc.), the entire string must be enclosed within double quotes.

shutdown

Syntax	[no] shutdown
Context	config>router>radius-proxy>cache config>router>radius-proxy>server>cache config>router>radius-proxy>server config>service>vprn>radius-proxy>server>cache config>service>vprn>radius-proxy>server config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface>group-interface>wlan-gw

```
config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>slaac
config>service>ies>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>slaac
config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>ia-na
config>service>ies>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>ia-na
```

Description The **shutdown** command administratively disables the entity. When disabled, an entity does not change, reset, or remove any configuration settings or statistics. Many entities must be explicitly enabled using the **no shutdown** command.

The **shutdown** command administratively disables an entity. The operational state of the entity is disabled as well as the operational state of any entities contained within. Many objects must be shut down before they can be deleted.

Unlike other commands and parameters where the default state is not indicated in the configuration file, **shutdown** and **no shutdown** are always indicated in system generated configuration files.

The **no** form of the command puts an entity into the administratively enabled state.

Default no shutdown

subscriber-mgmt

Syntax **subscriber-mgmt**

Context config

Description This command enables the context to configure subscriber management entities. A subscriber is uniquely identified by a subscriber identification string. Each subscriber can have several DHCP sessions active at any time. Each session is referred to as a subscriber host and is identified by its IP address and MAC address.

All subscriber hosts belonging to the same subscriber are subject to the same hierarchical QoS (HQoS) processing. The HQoS processing is defined in the sub-profile (the subscriber profile). A sub-profile refers to an existing scheduler policy (configured in **the configure>qos>scheduler-policy** context) and offers the possibility to overrule the rate of individual schedulers within this policy.

Because all subscriber hosts use the same scheduler policy instance, they must all reside on the same complex.

WLAN-GW Commands

Note that the **wlan-gw** commands apply only to the 7750 SR platform.

wlan-gw

Syntax	[no] wlan-gw
Context	config>subscriber-mgmt config>router config>service>vprn
Description	This command enables the context to configure WLAN Gateway parameters.

distributed-sub-mgt

Syntax	distributed-sub-mgmt
Context	config>subscr-mgmt>wlan-gw
Description	This command enables the context to configure profiles, templates, and policies that can be applied to DSM subscribers.

dsm-ip-filter

Syntax	dsm-ip-filter <i>filter-name</i> no dsm-ip-filter <i>filter-name</i>
Context	config>subscr-mgmt>wlan-gw>dsm
Description	This command configures a set of filter rules that can be applied to a DSM UE. The no form of the command can only be executed if no entries are configured under this filter.
Default	none
Parameters	<i>filter-name</i> — Specifies the name of the filter.

description

Syntax	description <i>description-string</i> no description
Context	config>subscr-mgmt>wlan-gw>dsn>dsm-ip-filter

```
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6>entry
config>subscr-mgmt>wlan-gw>dsm>dsm-policer
```

Description This command creates a text description stored in the configuration file for a configuration context. The description command associates a text string with a configuration context to help identify the context in the configuration file.

The **no** form of the command removes any description string from the context.

Default none

Parameters *description-string* — A text string describing the entity. Allowed values are any string up to 80 characters long composed of printable, 7-bit ASCII characters, excluding double quotation marks (“”). If the string contains special characters (such as #, \$, spaces, etc.), the entire string must be enclosed in double quotation marks (“”).

default-action

Syntax **default-action** {*drop*|*forward*}
no default-action

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6

Description This command specifies what should happen to packets that do not match any of the configured entries.

The **no** form of the command reverts to the default value.

Default default-action drop

Parameters *drop* — Drops the packet.
forward — Forwards the packet.

entry

Syntax **entry** *entry-id* [**create**]
no entry *entry-id*

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6

Description This command creates a new entry for this filter. When processing a packet, entries are matched in order, starting with the lowest entry-id. A maximum of 128 IPv4 and 128 IPv6 DSM filter entries are allowed.

The **no** form of the command reverts to the default value.

Default none

Parameters *entry-id* — The numeric identifier for the filter entry.

action

Syntax **action** {*drop*|*forward*|*none*}
no action

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6>entry

Description This command specifies what should happen to packets that do match this entry. If the configured action is none, this entry is not applied and processing continues to match against subsequent entries. The **no** form of the command reverts to the default value.

Default action none

Parameters *drop* — Drops the packet.
forward — Forwards the packet.
none — Disables this entry. Packet processing continues with the next entry.

match

Syntax **match protocol** {*any*|*icmp*|*tcp*|*udp*|*gre*}
no match

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6>entry

Description This command creates a match context for this entry. The *protocol* value specifies which Layer-4 protocol the packet should match. The **no** form of the command removes the match context of this entry.

Default no match

Parameters *protocol* — The only supported match context is protocol.
any — Matches any protocol.
icmp — Matches ICMP packets in a v4 filter.
tcp — Matches TCP packets.
udp — Matches UDP packets.
gre — Matches GRE over IP packets.

dst-port

Syntax **dst-port** *operator* <*port-number*>
no dst-port

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>entry>match
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6>entry>match

Description This command specifies that the packet's UDP/TCP dst-port must match a specific value. This command is not valid in a match context that is not specific to UDP or TCP.

The **no** form of the command removes matching of the layer-4 port.

Default no dst-port

Parameters *operator* — The only supported value is eq (equal to); the destination port value must be equal to the *port-number* value.

port-number — [0..65535] The number of the port to match.

dst-ip

Syntax **dst-ip** *ip-prefix/length*
no dst-ip

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>entry>

Description This command specifies that the packet's destination IP address must match the specified IP prefix and mask.

The **no** form of the command disables the match on the destination IP.

Default no dst-ip

Parameters *ip-prefix/length* — The IP prefix to match.

dsm-policer

Syntax **dsm-policer** *policer-name* [**type** {*single-bucket-bandwidth*|*dual-bucket-bandwidth*}] [**create**]
no dsm-policer *policer-name*

Context config>subscr-mgmt>wlan-gw>dsm>

Description This command creates a policer profile that can be applied to a DSM host. When creating a profile the first time, the create and type parameters are required.

The WLAN-GW allows configuration of single-rate and dual-rate bucket policers.

The **no** form of the command removes the profile.

Default none

Parameters *policer-name* — The name by which this policer is referenced.

single-bucket-bandwidth — One rate is applied per policer.

dual-bucket-bandwidth — The policer applies a CIR and a PIR.

action

Syntax **action** {*permit-deny*|*priority-mark*}
no action

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description This command specifies what happens to packets that are in-profile and out-of-profile.
The **no** form of the command reverts to the default value.

Default action permit-deny

Parameters *permit-deny* — Drop all packets that are out of profile (do not conform to the PIR).
priority-mark — Currently not supported. The policer will take no action.

adaptation-rule

Syntax **adaptation-rule pir** {*max*|*min*|*closest*} [**cir** {*max*|*min*|*closest*}]
no adaptation-rule

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description This command specifies what happens to packets that are in-profile and out-of-profile.
The **no** form of the command reverts to the default value.

Default action permit-deny

Parameters *max* — The operational rate at its maximum may be the configured rate. The first operational value that is smaller or equal to the configured rate will be chosen.
min — The operational rate at its minimum must be the configured rate. The first operational value that is bigger or equal to the configured rate will be chosen.
closest — The system chooses the operational value—either lower or higher—that is closest to the configured value.

cbs

Syntax **cbs** *burst-size*
no cbs

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description This command specifies the committed burst-size value of this policer. This can only be set on dual-bucket-bandwidth policers.

The **no** form of the command reverts to the default value.

Default cbs 0

Parameters *burst-size* — [0..131071] The committed burst-size in kilobytes.

mbs

Syntax **mbs** *burst-size*
no mbs

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description This command specifies the maximum burst-size value of this policer. This can only be set on dual-bucket-bandwidth policers.

The **no** form of the command reverts to the default value.

Default mbs 0

Parameters *burst-size* — [0..131071] The maximum burst-size in kbytes.

rate

Syntax **rate** *rate* [*cir rate*]
no rate

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description This command specifies the rate at which the policer drains packets. The **cir rate** value is only supported on dual-bucket-bandwidth policers. If rate max is configured, no rate limitations are applied.

The **no** form of the command reverts to the default value.

Default rate max

Parameters *rate* — [1..100000000|max] the rate in kb/s

mgw-profile

Syntax **mgw-profile** *profile-name* [**create**]
no mgw-profile *profile-name*

Context config>subscr-mgmt>wlan-gw

Description This command creates a new mobile gateway profile or configures an existing mobile gateway profile.

Mobile gateway profile is used to configure signaling interface between WLAN-GW and mobile gateway (PGW or GGSN) and GTP related signaling parameters per mobile gateway.

The **no** form of the command removes the profile name from the configuration.

Default none

Parameters *profile-name* — Specifies the Mobile Gateway profile up to 32 characters in length.
create — Keyword used to create a profile name. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

interface-type

Syntax **interface-type {gn|s2a|s2b}**
no interface-type

Context config>subscriber-mgmt>wlan-gw >mgw-profile

Description This command specifies the signaling interface between WLAN-GW and mobile gateway (PGW or GGSN).

Default s2a

Parameters **gn** — Signaling interface between wlan-gw and mobile gateway is Gn as specified in 3GPP TS 29.060.
S2a — Signaling interface between wlan-gw and mobile gateway is S2a as specified in SAMOG.
S2b — Signaling interface between wlan-gw and mobile gateway is S2b as specified in 3GPP TS 29.274.

ip-ttl

Syntax **ip-ttl hops**
no ip-ttl

Context config>subscr-mgmt>wlan-gw>mgw-profile

Description This command configures the value to put in the IP header's TTL field for GTP control messages. The **no** form of the command reverts to the default value.

Default 255

Parameters *hops* — Specifies the IP TTL.

Values 1 — 255

keep-alive

Syntax **keep-alive [interval seconds] [retry-count value] [timeout retry-seconds]**
no keep-alive

Context config>subscr-mgmt>wlan-gw>mgw-profile

Description This command configures the context in radius-server-policy.

The **no** form of the command reverts to the default values.

Default	keep-alive interval 60 seconds, retry-count 5, timeout 5 seconds
Parameters	<p>interval <i>seconds</i> — Specifies, in seconds, the interval between keep-alive Echo-Request messages towards the same peer.</p> <p>Values 0, 60 — 180</p> <p>Default 60</p> <p>retry-count <i>value</i> — Specifies, in seconds, the interval between keep-alive Echo-Request messages towards the same peer.</p> <p>Values 1 — 15</p> <p>Default 4</p> <p>timeout <i>retry-seconds</i> — Specifies the retry timeout, in seconds.</p> <p>Values 1 — 20</p> <p>Default 5</p>

message-retransmit

Syntax	message-retransmit [timeout <i>timeout</i>] [retry-count <i>value</i>] no message-retransmit
Context	config>subscr-mgmt>wlan-gw>mgw-profile
Description	This command configures the retry-count and response-timeout for GTP messages. The no form of the command reverts to the default values.
Default	timeout 5 seconds, value 3
Parameters	<p>timeout <i>timeout</i> — specifies, in seconds, the interval between retransmission of signalling request messages towards the same peer Mobile Gateway.</p> <p>Values 1 — 30</p> <p>Default 5</p> <p>retry-count <i>value</i> — specifies the number of times a signalling request message is transmitted towards the same peer.</p> <p>Values 1 — 8</p> <p>Default 3</p>

report-wlan-location

	report-wlan-location no report-wlan-location
Context	config>subscr-mgmt>wlan-gw>mgw-profile

Description	This command enables reporting the WLAN location or cellular location of the UE in the signaling interface (S2a or Gn) between wlan-gw and mobile gateway (PGW or GGSN). The no form of the command disables location reporting.
Default	not enabled

signalling-protocol

	signalling-protocol <i>protocol</i> no signalling-protocol
Context	config>subscr-mgmt>wlan-gw>mgw-profile
Description	This command specifies the GTP (GPRS Tunneling Protocol) control protocol. The no form of the command reverts to the default value.
Default	gtpv1C
Parameters	<i>protocol</i> — Specifies the the GTP control protocol variant. Values gtpv1-c, gtpv2-c, gtp-auto

serving-network

Syntax	serving-network mcc <i>mcc-value</i> mnc <i>mnc-value</i> no serving-network
Context	config>subscr-mgmt>wlan-gw>mgw-profile
Description	This command configures the Operator Identifier part (MCC and MNC) of the APN. The no form of the command removes the values from the profile.
Default	no serving-network
Parameters	mcc <i>mcc-value</i> — specifies the Mobile Country Code (MCC) portion of the Serving Network. Values 2 digits mnc <i>mnc-value</i> — specifies the Mobile Network Code (MNC) portion of the Serving Network. Values 2 or 3 digits

virtual-chassis-identifier

Syntax	virtual-chassis-identifier <i>dual-homing-key</i> no virtual-chassis-identifier
Context	config>subscr-mgmt>wlan-gw>mgw-profile
Description	This command specifies a virtual chassis identifier that can link two wlan-gw's together.

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The **no** form of the command removes the dual-homing-key

Default none

Parameters *dual-homing-key* — Specifies the name of the dual homing key up to 16 characters.

apn

Syntax **apn** *apn*
no apn

Context config>router>wlan-gw
configure>service>vprn>wlan-gw

Description This command configures the Network Identifier part of the APN.
The **no** form of the command removes the string from the configuration.

Default no apn

Parameters *apn* — Specifies the APN (Access Point Name) used for this IMSI to connect to this Mobile Gateway up to 80 characters in length.

distributed-sub-mgmt

Syntax **distributed-sub-mgmt**

Context config>router>wlan-gw
config>service>vprn>wlan-gw

Description This command enables the context to configure profiles, templates and policies that can be applied to DSM subscribers.

ipv6-tcp-mss-adjust

Syntax **ipv6-tcp-mss-adjust** *segment-size*
no ipv6-tcp-mss-adjust

Context config>router>wlan-gw>dsm
config>service>wlan-gw>dsm

Description This command specifies the value used for TCP-MSS-adjust in the IPv6 upstream direction for DSM. The downstream direction for both IPv4 and IPv6 are both configured under the group-interface. The upstream direction for IPv4 NAT hosts is configured under the NAT policy.

The defined segment size is inserted in a TCP SYN message if there is no existing MSS option or the value in the MSS option is bigger than the configured value.

The no form of the command disables upstream TCP MSS adjust for IPv6 DSM.

Default no ipv6-tcp-mss-adjust

Parameters *segment-size* — Specifies the segment size to be inserted.

Values 160 — 10240

mgw-map

Syntax **mgw-map** *ip-prefix* [*prefix-length*] **mgw-profile** *profile-name*
no mgw-map

Context config>router>wlan-gw
configure>service>vprn>wlan-gw

Description This command configures the mappings of MGW IP address and GTP profile.

Parameters *ip-prefix* [*prefix-length*] — Specifies the IP prefix and prefix length.

Values ip-prefix a.b.c.d (host bits must be 0)
length [0..32]

profile-name — specifies the profile associated with this address prefix.

Values 32 characters max

address

Syntax **address** *ip-prefix* [*prefix-length*] [**mgw-profile** *profile-name*]
no address *ip-prefix* [*prefix-length*]

Context config>router>wlan-gw>mgw-map
configure>service>vprn>wlan-gw>mgw-map

Description This command specifies the address .

The **no** form of the command removes the parameters form the configuration.

ip-prefix [*prefix-length*] — Specifies the IP prefix and prefix length of the subnet.

Values ip-prefix [*prefix-length*] ip-prefix a.b.c.d (host bits must be 0)
length [0..32]

mgw-profile *profile-name* — specifies the Mobile Gateway profile associated with this address prefix up to 32 characters in length.

mobility-triggered-acct

Syntax **mobility-triggered-acct**

Context config>router>wlan-gw
configure>service>vprn>wlan-gw

Description This command enters the configuration context of mobility-triggered-accounting in wlan-gw context under router or VPRN service.

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Default none

interim-update

Syntax **interim-update**
no interim-update

Context config>router>wlan-gw>mobility-triggered-acct
configure>service>vprn>wlan-gw>mobility-triggered-acct

Description This command enables generation of a flash interim accounting-update to the accounting service when change in location of the UE is detected.
The **no** form of the command disables generation of flash interim accounting- update to RADIUS when change in location of the UE is detected.

Default Not enabled

RADIUS Server Policy Commands

acct-on-off-group

Syntax	acct-on-off-group <i>group-name</i> [create] no acct-on-off-group <i>group-name</i>
Context	config>aaa
Description	This command creates an acct-on-off-group. An acct-on-off-group can be referenced by: <ul style="list-style-type: none"> • A single radius-server-policy as controller — The acct-on-off oper-state of the acct-on-off-group is set to the acct-on-off oper-state of the radius-server-policy (acts as master). • Multiple radius-server-policies as monitor — The acct-on-off oper-state of the radius-server-policy is inherited from the acct-on-off oper-state of the acct-on-off group. (acts as a slave). The no form of the command deletes the acct-on-off-group.
Default	none
Parameters	<i>group-name</i> — Specifies the name of an acct-on-off group up to 32 characters in length.

radius-server-policy

Syntax	radius-server-policy <i>policy-name</i> [create] no radius-server-policy <i>policy-name</i>
Context	config>aaa
Description	This command creates a radius-server-policy. A radius-server-policy can be used in <ul style="list-style-type: none"> - radius-proxy, for application like EAP authentication for WIFI access - authentication policy, for Enhanced Subscriber Management authentication - radius accounting policy, for Enhanced Subscriber Management accounting - dynamic data service RADIUS accounting - AAA route downloader The no form of the command removes the policy name from the configuration.
Default	none
Parameters	<i>policy-name</i> — Specifies the name of the radius-server-policy up to 32 characters in length. create — Keyword used to create a radius-server-policy name. The create keyword requirement can be enabled/disabled in the environment>create context.

accept-script-policy

Syntax	accept-script-policy <i>policy-name</i> no accept-script-policy
Context	config>aaa>radius-server-policy
Description	This command specifies name of the radius-script-policy to be applied for access-accept.
Default	none
Parameters	<i>policy-name</i> — Specifies the name of the accept-script-policy up to 32 characters in length.

acct-on-off

Syntax	acct-on-off acct-on-off monitor-group <i>group-name</i> acct-on-off oper-state-change [group <i>group-name</i>]
Context	config>aaa>radius-server-policy
Description	<p>This command controls the sending of Accounting-On and Accounting-Off messages and the acct-on-off oper-state of the radius-server-policy:</p> <p>acct-on-off: enables the sending of Accounting-On and Accounting-Off messages for this radius-server-policy. The acct-on-off oper-state is always not blocked.</p> <p>acct-on-off oper-state-change [group <i>group-name</i>]: enables the sending of Accounting-On and Accounting-Off messages for this radius-server-policy. The acct-on-off oper-state is function of the Accounting-response received for the Accounting-On and Accounting-Off. Optionally, sets the acct-on-off oper-state of the acct-on-off-group.</p> <p>acct-on-off monitor-group <i>group-name</i>: no Accounting-On and Accounting-Off messages are sent for this radius-server-policy. The acct-on-off oper-state is inherited from the acct-on-off-group.</p> <p>The no form of the command disables the sending of Accounting-On and Accounting-Off messages.</p>
Default	no acct-on-off
Parameters	<i>group-name</i> — Specifies the name of an acct-on-off group up to 32 characters in length.

acct-on-off-group

Syntax	acct-on-off-group < group-name > [create] no acct-on-off-group < group-name >]
Context	config>aaa
Description	<p>This command creates an acct-on-off-group.</p> <p>An acct-on-off-group can be referenced by:</p> <ul style="list-style-type: none">-a single radius-server-policy as controller: the acct-on-off oper-state of the acct-on-off-group is set to the acct-on-off oper-state of the radius-server-policy (acts as master)

-multiple **radius-server-policies** as monitor: the **acct-on-off oper-state** of the **radius-server-policy** is inherited from the **acct-on-off oper-state** of the **acct-on-off group**. (acts as a slave)

The **no** form of the command deletes the acct-on-off-group.

Default none

Parameters *group-name* — Specifies the name of an acct-on-off group up to 32 characters in length.

acct-request-script-policy

Syntax **acct-request-script-policy** *policy-name*
no acct-request-script-policy

Context config>aaa>radius-server-policy

Description This command specifies the name of the acct-request-script-policy pointing to the Python script to be applied for RADIUS accounting request messages.

Default no acct-request-script-policy

Parameters *policy-name* — Specifies the name of the acct-request-script-policy up to 32 characters in length.

auth-request-script-policy

Syntax **uth-request-script-policy** *policy-name*
no auth-request-script-policy

Context config>aaa>radius-server-policy

Description This command specifies the name of the auth-request-script-policy pointing to the Python script to be applied for RADIUS access request messages.

Default no auth-request-script-policy

Parameters *policy-name* — Specifies the name of the auth-request-script-policy up to 32 characters in length.

buffering

Syntax [**no**] **buffering**

Context config>aaa>radius-server-policy

Description This command enables the context to configure RADIUS message buffering.
The **no** form of the command disables RADIUS message buffering.

Default none

acct-interim

Syntax	acct-interim min <i>min-val</i> max <i>max-val</i> lifetime <i>lifetime</i> no acct-interim
Context	config>aaa>radius-srv-plcy>servers>buffering
Description	<p>This command enables RADIUS accounting interim update message buffering.</p> <p>1- The message is stored in the buffer, a lifetime timer is started and the message is sent to the RADIUS server</p> <p>2- If after <i>retry*timeout</i> seconds no RADIUS accounting response is received for the interim update then a new attempt to send the message is started after minimum[(<i>min-val</i>*2n), <i>max-val</i>] seconds.</p> <p>3- Repeat step 2 until for one of the following:</p> <ul style="list-style-type: none">a. a RADIUS accounting response is received.b. the lifetime of the buffered message expires.c. a new RADIUS accounting interim-update or a RADIUS accounting stop for the same accounting session-id and radius-server-policy is stored in the buffer.d. the message is manually purged from the message buffer via a clear command. <p>4- The message is purged from the buffer.</p> <p>The no form of the command disables RADIUS accounting interim update message buffering.</p>
Default	no acct-interim
Parameters	<p><i>min-val</i> — Specifies the minimum interval in seconds between attempts to resend the RADIUS accounting interim update</p> <p>Values 1 – 3600</p> <p><i>max-val</i> — Specifies the maximum interval in seconds between attempts to resend the RADIUS accounting interim update</p> <p>Values 1 – 3600</p> <p><i>lifetime</i> — Specifies the lifetime in hours</p> <p>Values 1 – 25</p>

acct-stop

Syntax	acct-stop min <i>min-val</i> max <i>max-val</i> lifetime <i>lifetime</i> no acct-stop
Context	config>aaa>radius-srv-plcy>servers>buffering
Description	<p>This command enables RADIUS accounting stop message buffering.</p> <p>1- The message is stored in the buffer, a lifetime timer is started and the message is sent to the RADIUS server</p>

2 - If after $\text{retry} * \text{timeout}$ seconds no RADIUS accounting response is received for the accounting stop, then a new attempt to send the message is started after $\text{minimum}[(\text{min-val} * 2^n), \text{max-val}]$ seconds.

3 - Repeat step 2 until

- a. a RADIUS accounting response is received, or
- b. the lifetime of the buffered message expires, or
- c. the message is manually purged from the message buffer via a clear command

4 - The message is purged from the buffer.

The no form of the command disables RADIUS accounting stop message buffering..

Default	no acct-interim
Parameters	<p><i>min-val</i> — Specifies the minimum interval in seconds between attempts to resend the RADIUS accounting stop</p> <p>Values 1 – 3600</p> <p><i>max-val</i> — Specifies the maximum interval in seconds between attempts to resend the RADIUS accounting stop.</p> <p>Values 1 – 3600</p> <p><i>max-val</i> — Specifies the lifetime in hours.</p> <p>Values 1 – 25</p>

servers

Syntax	servers
Context	config>aaa>radius-server-policy
Description	This command enables the context to configure radius-server-policy parameters.

access-algorithm

Syntax	access-algorithm {direct round-robin hash-based} no access-algorithm
Context	config>aaa>radius-server-policy>servers
Description	This command configures the algorithm used to select a RADIUS server from the pool of configured RADIUS servers.
Default	direct
Parameters	direct — Specifies that the first server will be used as primary server for all requests, the second as secondary and so on.

RADIUS Server Policy Commands

round-robin — Specifies that the first server will be used as primary server for the first request, the second server as primary for the second request, and so on. If the router gets to the end of the list, it starts again with the first server.

hash-based — Select a RADIUS server based on the calculated hash result of the configured load-balance-key under the radius-proxy server hierarchy. This parameter is only applicable for radius-proxy server scenarios and results in an unpredictable RADIUS server selection if used in other scenarios.

retry

Syntax	retry <i>count</i> no retry
Context	config>aaa>radius-srv-plcy>servers
Description	This command configures the number of times the router attempts to contact the RADIUS server, if not successful the first time.
Default	3
Parameters	<i>count</i> — Specifies the number of times a signalling request message is transmitted towards the same peer. Values 1 — 256

router

Syntax	router <i>router-instance</i> router service-name <i>service-name</i> no router
Context	config>aaa>radius-server-policy>servers
Description	This command specifies the virtual router instance applicable for the set of configured RADIUS servers. This value cannot be changed once a RADIUS server is configured for this policy.
Default	no router
Parameters	<i>router-instance</i> — Specifies the router instance. Values <i>service-name</i> Service name up to 64 characters. <i>router-instance:</i> router-name, service-id <i>router-name:</i> Base, management <i>service-id:</i> 1 — 2147483647 <i>service-name</i> — Specifies the router name service-id up to 64 characters.

server

Syntax	server <i>server-index</i> name <i>server-name</i> no server <i>server-index</i>
Context	config>aaa>radius-server-policy>servers
Description	This command adds a RADIUS server. The no form of the command removes a RADIUS server.
Default	none
Parameters	<i>index</i> — The index for the RADIUS server. The index determines the sequence in which the servers are queried for authentication requests. Servers are queried in order from lowest to highest index. Values 1 — 5 <i>server-name</i> — Specifies the server name up to 32 characters in length.

source-address

Syntax	source-address <i>ip-address</i> no source-address
Context	config>aaa>radius-server-policy>servers
Description	This command configures the source address of the RADIUS packet. The system IP address must be configured in order for the RADIUS client to work. See Configuring a System Interface in the 7750 SR OS Router Configuration Guide. Note that the system IP address must only be configured if the source-address is not specified. When the no source-address command is executed, the source address is determined at the moment the request is sent. This address is also used in the nas-ip-address attribute: over there it is set to the system IP address if no source-address was given. The no form of the command reverts to the default value.
Default	no source-address
Parameters	<i>ip-address</i> — Specifies the source address of radius packet.

timeout

Syntax	timeout [sec <i>seconds</i>] [min <i>minutes</i>] no timeout
Context	config>aaa>radius-srv-plcy>servers
Description	This command configures the time the router waits for a response from a RADIUS server. The no form of the command reverts to the default value.
Default	5 seconds

RADIUS Server Policy Commands

Parameters *seconds* — Specifies the number of seconds for the timeout.

Values 1 — 59

minutes — Specifies the number of minutes for the timeout.

Values 1 — 1

Values Max. value = 5 min 40 sec

hold-down-time

Syntax **hold-down-time** [**sec** *seconds*] [**min** *minutes*]
no hold-down-time

Context config>aaa>radius-server-policy>servers

Description This command configures the hold time before re-using a RADIUS server. The **no** form of the command reverts to the default value.

Default 30 seconds

Parameters *seconds* — Specifies the number of seconds for the hold down time.

Values 1 — 59

minutes — Specifies the number of minutes for the hold down time.

Values 1 — 15

ipv6-source-address

Syntax **ipv6-source-address** *ipv6-address*
no ipv6-source-address

Context config>aaa>radius-server-policy>servers

Description This command configures the source address of an IPv6 RADIUS packet. When no *ipv6-source-address* is configured, the system IPv6 address (inband RADIUS server connection) or Boot Option File (BOF) IPv6 address (outband RADIUS server connection) must be configured in order for the RADIUS client to work with an IPv6 RADIUS server. This address is also used in the NAS-IPv6-Address attribute. The **no** form of the command reverts to the default value.

Default no *ipv6-source-address*

Parameters *ipv6-address* — Specifies the source address of an IPv6 RADIUS packet.

CLI Command Description for RADIUS Server

radius-server

Syntax	radius-server
Context	config>router config>service>vprn
Description	This command enters the radius-server configuration context under router or VPRN service.
Default	none

server

Syntax	server <i>server-name</i> [address <i>ip-address</i>] [secret <i>key</i>][hash hash2][create] no server <i>server-name</i>
Context	config>router>radius-server config>service>vprn>radius-server
Description	This command either specifies an external RADIUS server in the corresponding routing instance or enters configuration context of an existing server. The configured server could be referenced in the radius-server-policy. The no form of the command removes the parameters from the server configuration.
Default	no
Parameters	<i>server-name</i> — Specifies the name of the external RADIUS server address <i>ip-address</i> — Specifies the IPv4 or IPv6 IP address of the external RADIUS server. secret <i>key</i> — Specifies the shared secret key of the external RADIUS server hash — Specifies the hash scheme.

accept-coa

Syntax	[no] accept-coa
Context	config>router>radius-server>server config>service>vprn>radius-server>server
Description	This command configures this server for Change of Authorization messages. The system will process the CoA request from the external server if configured with this command; otherwise the CoA request will be dropped. The no form of the command disables the command.

acct-port

Syntax	acct-port <i>port</i> no acct-port
Context	config>router>radius-server>server config>service>vprn>radius-server>server
Description	This command specifies the UDP listening port for RADIUS accounting requests. The no form of the commands resets the UDP port to its default value (1813)
Default	acct-port 1813
Parameters	<i>port</i> — Specifies the UDP listening port for accounting requests of the external RADIUS server. Values 1 — 65535

auth-port

Syntax	auth-port <i>port</i> no auth-port
Context	config>router>radius-server>server config>service>vprn>radius-server>server
Description	This command specifies the UDP listening port for RADIUS authentication requests. The no form of the commands resets the UDP port to its default value (1812)
Default	auth-port 1812
Parameters	<i>port</i> — Specifies the UDP listening port for accounting requests of the external RADIUS server. Values 1 — 65535

coa-script-policy

Syntax	coa-script-policy <i>policy-name</i> no coa-script-policy
Context	config>router>radius-server>server config>service>vprn>radius-server>server
Description	This command specifies radius-script-policy for CoA-Request sent from this RADIUS server. The no form of the command removes the policy name from the configuration.
Default	none
Parameters	<i>policy-name</i> — Specifies the name of radius-script-policy up to 80 characters in length.

pending-requests-limit

Syntax	pending-request-limit <i>limit</i> no pending-request-limit
Context	config>router>radius-server>server config>service>vpn>radius-server>server
Description	This command specifies the per-server maximum number of outstanding requests sent to the RADIUS server. If the maximum number is exceeded, the next RADIUS server in the pool is selected. The no form of the command removes the limit value from the configuration.
Default	none
Parameters	<i>limit</i> — Specifies the maximum number of outstanding requests sent to the RADIUS server Values 1 — 4096

CLI Command Description for RADIUS Proxy Server

radius-proxy

Syntax	radius-proxy
Context	config>router config>service>vpn
Description	This command context to configure RADIUS proxy parameters.

server

Syntax	server <i>server-name</i> [create] [purpose {[accounting authentication]}] [wlan-gw-group <i>group-id</i>] no server <i>server-name</i>
Context	config>router>radius-proxy config>service>vpn>radius-proxy
Description	<p>This command creates a RADIUS-proxy server in the corresponding routing instance. The proxy server can be configured for the purpose of proxying authentication or accounting or both.</p> <p>If <i>wlan-gw isa</i> group is specified, then the RADIUS proxy server is instantiated on the set of ISAs in the specified <i>wlan-gw</i> group. The RADIUS messages from the AP are load-balanced to these ISAs. The ISA that processes the RADIUS message then hashes this message to the ISA that anchors the UE. The hash is based on UE MAC address (required to be present in the <i>calling-station-id</i> attribute) in the RADIUS message.</p> <p>If the create parameter is not specified, then this command enters configuration context of the specified RADIUS-proxy server.</p> <p>The no form of the command removes the <i>server-name</i> and parameters from the radius-proxy configuration.</p>
Default	purpose authentication
Parameters	<p><i>server-name</i> — Specifies the name of the RADIUS-proxy server.</p> <p>create — The creation parameter. The system will create the specified RADIUS-proxy server.</p> <p>purpose — Specifies the purpose the RADIUS-proxy server,</p> <p>Values</p> <ul style="list-style-type: none"> accounting — proxy accounting packets. authentication — proxy authentication packets . both — Specifies both accounting and authentication proxy accounting packets. <p>wlan-gw-group <i>group-id</i> — Specifies the WLAN-GW isa group.</p>

interface

Syntax	[no] interface <i>ip-int-name</i>
Context	config>router>radius-proxy>server config>service>vprn>radius-proxy>server
Description	This command configures the IP interface the RADIUS-proxy server will bind to. One RADIUS-proxy server could bind to multiple interfaces.
Default	none
Parameters	<i>ip-int-name</i> — Specifies the name of IP interface.

load-balance-key

Syntax	load-balance-key [vendor <i>vendor-id</i> [<i>vendor-id...</i> (up to 5 max)]] attribute-type <i>attribute-type</i> [<i>attribute-type...</i> (up to 5 max)] load-balance-key source-ip-udp no load-balance-key
Context	config>router>radius-proxy>server config>service>vprn>radius-proxy>server
Description	This command specifies the key(s) used in calculating a hash to select an external RADIUS server from the pool of configured servers. The key(s) can be the source ip and source udp port tuple, or the specified radius attribute(s) in radius packets. The no form of the command removes the parameters from the configuration.
Default	no load-balance-key
Parameters	vendor <i>vendor-id</i> — Specifies the vendor-id of vendor-specific attribute. Values 0 — 16777215 attribute-type <i>attribute-type</i> — Specifies that the key is constructed with the attributes in the RADIUS message. Values 1 — 255 source-ip-udp — Specifies that the key consists of the source IP address and source UDP port of the RADIUS message.

python-policy

Syntax	python-policy <i>name</i> no python-policy
Context	config>router>radius-proxy>server

CLI Command Description for RADIUS Proxy Server

Description This command specifies the Python policy used to change the RADIUS attributes of the different RADIUS messages.

secret

Syntax **secret** *secret* [**hash**|**hash2**]
no secret

Context config>router>radius-proxy>server
config>service>vprn>radius-proxy>server

Description This command configures the shared secret key. The RADIUS client must have the same key to communicate with the RADIUS-proxy server.
The **no** form of the command removes the parameters from the configuration.

Default none

Parameters **secret** *key* — The secret key to access the RADIUS server. This secret key must match the password on the RADIUS server.

Values secret-key: Up to 20 characters in length.
hash-key: Up to 33 characters in length.
hash2-ke: Up to 55 characters in length.

hash — Specifies the key is entered in an encrypted form. If the **hash** parameter is not used, the key is assumed to be in a non-encrypted, clear text form. For security, all keys are stored in encrypted form in the configuration file with the **hash** parameter specified.

hash2 — Specifies the key is entered in a more complex encrypted form. If the **hash2** parameter is not used, the less encrypted **hash** form is assumed.

default-accounting-server-policy

Syntax **default-accounting-server-policy** *policy-name*
no default-accounting-server-policy

Context config>router>radius-proxy>server
config>service>vprn>radius-proxy>server

Description This command specifies the default radius-server-policy for RADIUS accounting. This policy will be used when there is no specific match based on username.
The **no** form of the command removes the policy name from the configuration.

Default none

Parameters *policy-name* — Specifies the name of the default RADIUS server policy associated with this RADIUS Proxy server for accounting purposes.

default-authentication-server-policy

Syntax	default-authentication-server-policy <i>policy-name</i> no default-authentication-server-policy
Context	config>router>radius-proxy>server config>service>vprn>radius-proxy>server
Description	This command specifies the default radius-server-policy for RADIUS authentication. This policy will be used when there is no specific match based on username. The no form of the command removes the policy name from the configuration.
Default	none
Parameters	<i>policy-name</i> — Specifies the name of the default RADIUS server policy associated with this RADIUS proxy server for authentication purposes.

username

Syntax	username [1..32] [prefix-string <i>prefix-string</i>] [accounting-server-policy <i>policy-name</i>] [suffix-string <i>suffix-string</i>] no username [1..32]
Context	config>router>radius-proxy>server config>service>vprn>radius-proxy>server
Description	This command configures a mapping of username prefix to a radius-server-policy for authentication or accounting. The username from incoming authentication or accounting messages is matched against the configured mappings to obtain the radius-server-policy to be used. Up to 32 entries could be configured for a RADIUS-proxy server.
Default	none
Parameters	1..32 — Assigns an integer to specify this username. prefix-string — Specifies a prefix string used to match username attribute up to 128 characters. <i>policy-name</i> — Specifies a radius-server-policy name up to 32 characters in length.

send-accounting-response

Syntax	[no] send-accounting-response
Context	config>router>radius-proxy>server config>service>vprn>radius-proxy>server
Description	This command results in the system to always generate RADIUS accounting-response to acknowledge RADIUS accounting-request received from the RADIUS client. The no form of the command disables the command.
Default	no send-accounting-response

cache

Syntax	cache
Context	config>router>radius-proxy>server config>service>vprn>radius-proxy>server
Description	This command enters the cache configuration context under radius-proxy server. The cache contains per-subscriber authentication information learnt from RADIUS authentication messages, and is used to authorize subsequent DHCP requests.
Default	none

key

Syntax	key packet-type {accept request} attribute-type <i>attribute-type</i> [vendor <i>vendor-id</i>] no key config>router>radius-proxy>server>cache config>service>vprn>radius-proxy>server>cache
Description	This command specifies the RADIUS cache key that is used to match the information in subsequent DHCP requests for authorization.
Default	no key
Parameters	packet-type — Specifies the packet type of the RADIUS messages to use to generate the key for the cache of this RADIUS proxy server. Values accept, request attribute-type <i>attribute-type</i> — Specifies the RADIUS attribute type to cache for this RADIUS proxy server. Values 1 — 255 the type value of RADIUS attribute vendor <i>vendor-id</i> — Specifies the RADIUS vendor ID. Values 1 — 16777215, alu

timeout

Syntax	timeout [hrs <i>hours</i>] [min <i>minutes</i>] [sec <i>seconds</i>] no timeout
Context	config>router>radius-proxy>server>cache config>service>vprn>radius-proxy>server>cache
Description	This command configures the time for which the cache entry is kept if there is no corresponding DHCP DISCOVER. At the expiry of this time, the cache entry is deleted. The no form of the command reverts to the default value.

Default	timeout min 5
Parameters	<p>hrs <i>hours</i> — Specifies, in seconds, the timeout after which an entry in the cache will expire.</p> <p>min <i>minutes</i> — Specifies, in seconds, the timeout after which an entry in the cache will expire.</p> <p>sec <i>seconds</i> — Specifies, in seconds, the timeout after which an entry in the cache will expire.</p>

track-accounting

Syntax	track-accounting [start] [stop][interim-update][accounting-on] [accounting-off] no track-accounting
Context	config>router>radius-proxy>server>cache config>service>vpn>radius-proxy>server>cache
Description	<p>This command specifies the type of RADIUS accounting packets from RADIUS client (a WIFI AP) that the router should track.</p> <p>The no form of the command removes the parameters from the configuration.</p>
Default	no track-accounting
Parameters	<p>start — The router will update the associated ESM-host with the RADIUS client (for example, a WIFI AP) that generated the accounting-start. This is required in cases where a UE roams to a new AP that does not re-authenticate due to key caching.</p> <p>stop — The router will remove the corresponding ESM host and forward the accounting-stop packet to the external RADIUS server.</p> <p>accounting-on accounting-off — The router will remove all ESM hosts associated with the RADIUS client (a WIFI AP), and forward the accounting-on packet to the external RADIUS server.</p> <p>interim-update — The router will update the associated ESM-host with the RADIUS client (e.g. a WIFI AP) that generated the interim-update. The interim-updates with the updated information are sent to the RADIUS server as scheduled.</p>

track-authentication

Syntax	track-authentication [accept] no track-authentication
Context	config>router>radius-proxy>server>cache config>service>vpn>radius-proxy>server>cache
Description	<p>This command specifies if RADIUS authentication (from the AP) should be tracked in order to update the ESM host with the RADIUS client (for example, WIFI AP) on UE mobility. It also specifies the authentication packet from RADIUS client (for example, a WIFI AP) that the router should track for mobility.</p> <p>The no form of this command stops tracking authentication for UE mobility.</p>
Default	Not enabled

CLI Command Description for RADIUS Proxy Server

Parameters **accept** — Indicates access-accept is tracked for mobility.

track-delete-hold-time

Syntax **track-delete-hold-time** *seconds*
no track-delete-hold-time

Context config>router>radius-proxy>server>cache

Description This command specifies the delete hold-time in case the DHCP host gets a trigger to delete from the matched RADIUS Proxy server.

Default 0

Parameters *seconds* — Specifies the delete hold time, in seconds.

Values 0 — 600

LUIDB Matching of RADIUS Proxy Cache Commands

local-user-db

Syntax	local-user-db <i>local-user-db-name</i> [create] no local-user-db <i>local-user-db-name</i>
Context	config>subscr-mgmt
Description	This command enables the context to configure a local user database.
Default	not enabled
Parameters	<i>local-user-db-name</i> — Specifies the name of a local user database.

dhcp

Syntax	dhcp
Context	config>subscr-mgmt>loc-user-db
Description	This command configures DHCP host parameters.

host

Syntax	host
Context	config>subscr-mgmt>loc-user-db
Description	This command enables the context to configure DHCP host parameters.

match-radius-proxy-cache

Syntax	match-radius-proxy-cache
Context	config>subscr-mgmt>loc-user-db>dhcp>host
Description	This command enables the context to configure match-radius-proxy-cache parameters.

fail-action

Syntax	fail-action {continue drop} no fail-action
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LUDB Matching of RADIUS Proxy Cache Commands

Context	config>subscr-mgmt>loc-user-db>dhcp>host>match-radprox-cache
Description	This command specifies the router's action when failed to find matched radius-proxy-server cache entry. The no form of the command reverts to the default.
Default	drop
Parameters	continue — Specifies that the will proceed with ESM authentication without dropping the DHCP packet. drop — Specifies that the router will drop the DHCP packet.

mac-format

Syntax	mac-format <i>format</i> no mac-format
Context	config>subscr-mgmt>loc-user-db>dhcp>host>match-radprox-cache
Description	This command specifies the format of MAC address used for matching incoming DHCP DISCOVER against the RADIUS proxy cache. The no form of the command reverts to the default.
Default	mac-format "aa:"
Parameters	<i>format</i> — Specifies the format string that specifies the format of MAC address. Values mac-format: (only when match is equal to mac) like ab: for 00:0c:f1:99:85:b8 or XY- for 00-0C-F1-99-85-B8 or mmmm. for 0002.03aa.abff or xx for 000cf19985b8

match

Syntax	match {circuit-id mac remote-id} match option [1..254] no match
Context	config>subscr-mgmt>loc-user-db>dhcp>host>match-radprox-cache
Description	This command specifies the field/option of DHCP packet that is used to match against the radius-proxy-server cache. The no form of the command reverts to the default.
Default	mac
Parameters	circuit-id — Specifies to match the circuit-id in DHCP option82 remote-id — Specifies to match the remote-id in DHCP option82

mac — Specifies to match the MAC address of DHCP client

option — Specifies to use specified DHCP option , 1 — 254

server

Syntax **server** [**service** *service-id*] **name** *server-name*
no server

Context config>subscr-mgmt>loc-user-db>dhcp>host>match-radprox-cache

Description This command specifies the name of radius-proxy-server and optionally id of the service that the radius-proxy-server resides in.

The **no** form of the command removes the parameters from the configuration.

Default no server

Parameters **service** *service-id* — Specifies the ID or name of the service.

Values 1..214748365
 svc-name up to 64 char maximum

name *server-name* — Specifies the name of radius-proxy-server up to 32 characters in length.

WLAN-GW-Group Commands

wlan-gw-group

Syntax	wlan-gw-group <i>group-id</i> [create] no wlan-gw-group <i>group-id</i>
Context	config>isa
Description	This command creates a WLAN GW group. Note that the wlan-gw-group ID shares the same number space with the nat-group. The no form of the command removes the group
Default	none
Parameters	<i>group-id</i> — Specifies WLAN Gateway Integrated Service Adaptor (ISA) Groups. Values 1 — 4

active-iom-limit

Syntax	active-iom-limit <i>number</i> no active-iom-limit
Context	config>isa>wlan-gw-group
Description	This command specifies the number of WLAN-GW IOMs used as active IOMs from the total number of configured WLAN-GW IOMs. If there are more configured IOM than active-iom-limit, then the remaining number of IOMs will be designated as backup(s). The no form of the command removes the number from the configuration.
Parameters	<i>number</i> — Specifies the number of IOM's in this WLAN Gateway ISA group that are intended for active use. Values 1 — 3

distributed-sub-mgmt

Syntax	[no] distributed-sub-mgmt
Context	config>isa>wlan-gw-group
Description	This command configures the WLAN gateway distributed subscriber management.

isa-aa-group

Syntax	isa-aa-group <i>aa-group-id</i> no isa-aa-group
Context	config>isa>wlan-gw-group>distributed-sub-mgmt
Description	This command configures an ISA application assurance group for WLAN gateway DSM subscribers.

iom

Syntax	iom <i>slot-number</i> no iom
Context	config>isa>wlan-gw-group
Description	This command designates the specified IOM as a WLAN-GW IOM. Each WLAN-GW IOM MUST be configured with two MS-ISA modules. The no form of the command removes the number from the configuration.
Default	none
Parameters	<i>slot-number</i> — Indicates the IOM slot of the MDA associated with this member. Values 1 — 10

nat

Syntax	nat
Context	config>isa>wlan-gw-group
Description	This command enables the context to configure NAT parameters under wlan-gw-group.

radius-accounting-policy

Syntax	radius-accounting-policy <i>nat-accounting-policy</i> no radius-accounting-policy
Context	config>isa>wlan-gw-group>nat
Description	This command configures the RADIUS accounting policy to use for each MDA in this ISA group. The no form of the command removes the accounting policy from the configuration.
Default	none
Parameters	<i>nat-accounting-policy</i> — Specifies the RADIUS accounting policy up to 32 characters in length.

session-limits

Syntax	session-limits
Context	config>isa>wlan-gw-group>nat
Description	This command configures the ISA NAT group session limits.

reserved

Syntax	reserved <i>num-sessions</i> no reserved
Context	config>isa>nat>session-limits
Description	This command configures the number of sessions per block that will be reserved for prioritized sessions.
Parameters	<i>num-sessions</i> — Specifies the number of sessions reserved for prioritized sessions. Values 0 — 4194303

watermarks

Syntax	watermarks <i>high percentage low percentage</i> no watermarks
Context	config>isa>nat>session-limits
Description	This command configures the ISA NAT group watermarks. high percentage — Specifies the high watermark of the number of sessions for each MDA in this NAT ISA group. Values 2 — 100 low percentage — Specifies the low watermark of the number of sessions for each MDA in this NAT ISA group. Values 1 — 99

Port Policy Commands

port-policy

Syntax	port-policy <i>port-policy-name</i> [create] no port-policy <i>port-policy-name</i>
Context	config
Description	This command either creates a new port-policy with create parameter or enters the configuration context of an existing port-policy.
Default	none
Parameters	<i>port-policy-name</i> — Specifies the name of port-policy. create — Keyword used to create a port-policy.

egress-scheduler-policy

Syntax	egress-scheduler-policy <i>port-sched-plcy</i> egress-scheduler-policy
Context	config>port-policy
Description	This command specifies the port-scheduler-policy to use in the egress direction for the internal port connecting the WLAN-GW IOM to the MS-ISA.
Default	none
Parameters	<i>port-sched-plcy</i> — Specifies the name of the port-scheduler-policy up to 32 characters in length.

WLAN-GW Group Interface Commands

Note that the **wlan-gw** commands apply only to the 7750 SR platform.

group-interface

Syntax	group-interface <i>ip-int-name</i> [create] group-interface <i>ip-int-name</i> [create] lns group-interface <i>ip-int-name</i> [create] wlangw no group-interface <i>ip-int-name</i> [create]
Context	config>service>ies>subscriber-interface config>service>vprn>subscriber-interface
Description	This command creates a group interface. This interface is designed for triple-play services where multiple SAPs are part of the same subnet. A group interface may contain one or more SAPs. Use the no form of the command to remove the group interface from the subscriber interface.
Default	no group interfaces configured
Parameters	<i>ip-int-name</i> — Specifies the interface name of a group interface. If the string contains special characters (#, \$, spaces, etc.), the entire string must be enclosed within double quotes. lns — Specifies to use LNS. wlangw — Specifies the group interface for wlan-gw.

ip-mtu

Syntax	ip-mtu <i>octets</i> no ip-mtu
Context	config>service>ies>subscriber-interface config>service>vprn>subscriber-interface
Description	This command specifies the maximum size of frames on this group-interface. Packets larger than this will get fragmented. The no form of the command removes this functionality.
Default	none
Parameters	<i>octets</i> — Specifies the largest frame size (in octets) that this interface can handle. Values 512 — 9000

wlan-gw

Syntax	wlan-gw
---------------	----------------

Context	config>service>ies>subscriber-interface>group-interface config>service>vprn>subscriber-interface> group-interface
Description	This command enables the context to configure wlan-gw parameters.
Default	none

egress

Syntax	egress
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw
Description	This command enables the context to configure egress QoS parameters for wlan-gw tunnels.

agg-rate-limit

Syntax	agg-rate-limit <i>kilobits-per-second</i> no agg-rate-limit
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw>egress config>service>vprn>subscriber-interface>group-interface>wlan-gw>egress
Description	This command is used to control an HQoS aggregate rate limit. It is used in conjunction with the following parameter commands: rate , limit-unused-bandwidth , and queue-frame-based-accounting .
Parameters	<i>kilobits-per-second</i> — Specifies the aggregate rate limit. Values 1..100000000 max

rate

Syntax	rate { max rate } no rate
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw>egress>agg-rate config>service>vprn>subscriber-interface>group-interface>wlan-gw>egress>agg-rate
Description	This command defines the enforced aggregate rate for all queues associated with the agg-rate context. A rate must be specified for the agg-rate context to be considered to be active on the context's object (SAP, subscriber, Vport, etc.).

limit-unused-bandwidth

Syntax	[no] limit-unused-bandwidth
Context	config>service>ies>interface>sap>egress>agg-rate config>service>ies>subscriber-interface> group-interface>sap>egress>agg-rate

WLAN-GW Group Interface Commands

```
config>service>vprn>interface>sap>egress>agg-rate
config>service>vprn>subscriber-interface> group-interface>sap>egress>agg-rate
```

Description This command is used to enable (or disable) aggregate rate overrun protection on the agg-rate context.

queue-frame-based-accounting

Syntax [no] **queue-frame-based-accounting**

Context config>service>ies>interface>sap>egress>agg-rate
config>service>ies>subscriber-interface> group-interface>sap>egress>agg-rate
config>service>vprn>interface>sap>egress>agg-rate
config>service>vprn>subscriber-interface> group-interface>sap>egress>agg-rate

Description This command is used to enabled (or disable) frame based accounting on all queues associated with the agg-rate context. Only supported on Ethernet ports. Not supported on HSMDA Ethernet ports.

hold-time

Syntax **hold-time infinite**
hold-time [1..86400]
no hold-time

Context config>service>ies>subscriber-interface>group-interface>wlan-gw>egress
config>service>vprn>subscriber-interface> group-interface>wlan-gw>egress

Description This command configures the time for which egress shaping resources associated with a wlan-gw tunnel are held after the last subscriber on a tunnel is deleted.

Parameters 1..86400 — Specifies the time, in seconds, for which shaping resources are held in seconds after last subscriber is deleted.

Values infinite | 1..86400

qos

Syntax **qos** *policy-id*
no qos

Context config>service>ies>subscriber-interface>group-interface>wlan-gw>egress

Description This command configures the identifier of the egress QoS policy associated with each wlan-gw tunnel of this interface.

The **no** form of the command removes the policy ID from the configuration.

Default 1

Parameters *policy-id* — Specifies to apply the specified *sap-egress-policy-id*.

Values 1 — 65535
name: A string up to 64 characters.

scheduler-policy

Syntax **scheduler-policy** *scheduler-policy-name*
no scheduler-policy

Context config>service>ies>subscriber-interface>group-interface>wlan-gw>egress

Description This command configures the identifier of the egress scheduler policy associated with each wlan-gw tunnel of this interface.

The **no** form of the command removes the scheduler policy name from the configuration.

Default none

Parameters *scheduler-policy-name* — Specifies the identifier of the egress scheduler policy associated with each wlan-gw tunnel of this interface

shape-multi-client-only

Syntax [**no**] **shape-multi-client-only**

Context config>service>ies>subscriber-interface>group-interface>wlan-gw>egress

Description This command enables the egress shaping is only enabled for a wlan-gw tunnel while there are multiple UE (User Equipment) using it.

The **no** form of the command disables the egress shaping.

shaping

Syntax **shaping** {**per-retailer**|**per-tunnel**}
no shaping

Context config>service>ies>subscriber-interface>group-interface>wlan-gw>egress

Description This command configures the the granularity of the egress shaping for wlan-gw on this group interface.

The **no** form of the command removes the parameter from the configuration.

Parameters **per-tunnel** — Specifies that a separate shaper is applied to each wlan-gw tunnel.

per-retailer — Specifies that a separate shaper is applied to each retailer Mobile Network Operator's fraction of the wlan-gw tunnel payload.

WLAN-GW Group Interface Commands

gw-address

Syntax	gw-address <i>ip-address</i> no gw-address
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface> group-interface>wlan-gw
Description	This command specifies gateway endpoint address for the wlan-gw tunnel. The no form of the command removes the value from the wlan-gw configuration.
Default	none
Parameters	<i>ip-address</i> — Specifies the IP address of the wlan-gw tunnels on this group interface.

gw-ipv6-address

Syntax	gw-ipv6-address <i>ipv6-address</i> no gw-ipv6-address
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface> group-interface>wlan-gw
Description	This command specifies a gateway IPv6 endpoint address for the wlan-gw tunnel. The no form of the command removes the IPv6 the gateway IPv6 endpoint address for the wlan-gw tunnel.
Default	none
Parameters	<i>ipv6-address</i> — Specifies the gateway IPv6 endpoint address Values <i>ipv6-address</i> : x::x:x:x:x:x:x (eight 16-bit pieces) x::x:x:x:x:d.d.d.d x - [0..FFFF]H d - [0..255]D

l2-access-points

Syntax	l2-access-points
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface> group-interface>wlan-gw
Description	This command enables the context to configure Layer 2 Access Points in WLAN Gateway Group-Interfaces.

l2-ap

Syntax **l2-ap** *sap-id* [**create**]
no l2-ap *sap-id*

Context config>service>vprn>sub-if>grp-if>wlan-gw>l2-access-points
 config>service>ies >sub-if>grp-if>wlan-gw>l2-access-points

Description This command adds a specific SAP where Layer-2 WLAN-GW aggregation will be performed. The following SAPs are supported.

- Ethernet
- LAG
- MPLS pseudowire SDPs

This command can be repeated multiple times to create multiple Layer-2 access points.

The **no** form of the command removes the Layer-2 access point. This is only allowed if the l2-ap SAP is shutdown.

Default No SAPs are defined

Parameters *sap-id* — Specifies SAP to be created. For the exact syntax, see the common CLI command description of the 7750 Services Guide.

create — Keyword used to create the Layer-2 WLAN-GW aggregation instance. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

encap-type

Syntax **encap-type** {**default**|**null**|**dot1q**|**qinq**}
no encap-type

Context config>service>vprn>sub-if>grp-if>wlan-gw>l2-access-points>l2-ap
 config>service>ies >sub-if>grp-if>wlan-gw>l2-access-points>l2-ap

Description If different from default, this command overrides the value specified by **l2-ap-encap-type** on wlan-gw level. See the description of l2-ap-encap-type for more detail. This value can only be changed while the l2-ap is shutdown.

The **no** form of the command sets the default value.

Default default

Parameters **default** — Specifies to use the value specified by l2-ap-encap-type.

null — Specifies to use both the SAP and the AP are not VLAN-tagged.

dot1q — Specifies to use either the AP or the SAP uses one VLAN tag.

qinq — Up to two VLAN tags are used by the AP or SAP.

epipe-sap-template

Syntax	epipe-sap-template <i>name</i> no epipe-sap-template
Context	config>service>vprn>sub-if>grp-if>wlan-gw>l2-access-points>l2-ap config>service>ies >sub-if>grp-if>wlan-gw>l2-access-points>l2-ap
Description	This command specifies which SAP parameter template should be applied to the l2-ap SAP. This can only be changed when the l2-ap is shutdown. The no form of the command removes the template, the SAP will use default parameters.
Default	none
Parameters	<i>name</i> — Specifies the name of the template to use.

shutdown

Syntax	shutdown <i>sap-id</i> [create] no shutdown <i>sap-id</i>
Context	config>service>vprn>sub-if>grp-if>wlan-gw>l2-access-points>l2-ap config>service>ies >sub-if>grp-if>wlan-gw>l2-access-points>l2-ap
Description	This command administratively enables this SAP to begin accepting Layer 2 packets for WIFI offloading. The no form of the command disables this SAP.
Default	shutdown

l2-ap-encap-type

Syntax	config>service>vprn>sub-if>grp-if>wlan-gw config>service>ies >sub-if>grp-if>wlan-gw
Description	This parameter specifies the number of AP identifying VLAN tags for an AP. This is the default value that can be overridden per SAP. This value should at least be equal to the number of VLANs configured in the SAP or enabling a SAP will fail. A SAP VLAN is explicitly configured, for example l2-ap 1/1/1:25 . Other VLANs on the same port can still be used in other contexts. The number of VLAN tags Epiped to WLAN-GW IOM equal the l2-ap-encap-type minus the encaps of the SAP. Upon receipt of a packet these VLANs will be stored as a Layer 2 tunnel identifier, and are only used in context of WLAN-GW. The no form of the command sets the default value.
Default	null
Parameters	null — Both the SAP and the AP are not VLAN-tagged.

dot1q — Either the AP or the SAP uses one VLAN tag.

qinq — Up to two VLAN tags are used by the AP or SAP.

mobility

Syntax	mobility
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface> group-interface>wlan-gw
Description	This command enables the context to configure mobility parameters.

arp-ap

Syntax	arp-ap no arp-ap
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw>mobility config>service>vprn>subscriber-interface> group-interface>wlan-gw>mobility
Description	This command enables the generation of an ARP packet on wlan-gw tunnel to learn the MAC address of the new AP when UE mobility is detected. The IP address in the ARP packet is the wlan-gw tunnel endpoint IP address of the AP. The no form of the command disables sending of special ARP packet on wlan-gw tunnel to learn the MAC address of the AP when UE mobility is detected.
Default	not enabled

hold-time

Syntax	hold-time <i>time in s</i> no hold-time
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw>mobility config>service>vprn>subscriber-interface> group-interface>wlan-gw>mobility
Description	This command configures the minimum time that a User Equipment will be held associated with its current Access Point (AP) before being associated with a new AP. The hold time is used to prevent overwhelming the system with mobility triggers, by limiting the rate at which a UE can move from one AP to another while the system is very busy already.
Default	no default
Parameters	<i>time in s</i> — Specifies a hold-down time, in seconds, for handling of successive mobility triggers for a UE. It is the minimal time a UE stays associated with an AP.
Values	0..255

trigger

Syntax	trigger [data] [iapp] no trigger
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw>mobility config>service>vprn>subscriber-interface> group-interface>wlan-gw>mobility
Description	This command specifies the type of packet used as a mobility trigger. This no form of the command removes the parameters from the configuration and disables data-plane mobility.
Parameters	data — Specifies that data traffic be used as a trigger. iapp — Specifies that Inter Access Point Protocol (IAPP) messages be used as a trigger.

multi-tunnel-type

Syntax	[no] multi-tunnel-type
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface> group-interface>wlan-gw
Description	This command enables terminating multiple types of tunnels. The no form of the command disables terminating multiple types of tunnels.

oper-down-on-group-degrade

Syntax	[no] oper-down-on-group-degrade
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface> group-interface>wlan-gw
Description	This command operationally brings down the WLAN-GW group if the total number of operational WLAN-GW IOMs in the WLAN-GW group fall below the configured number of active WLAN-GW IOMs. This triggers withdrawal of the route to tunnel endpoint and subscriber subnets in routing.
Default	none

router

Syntax	router <i>router-instance</i> no router
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface> group-interface>wlan-gw
Description	This command specifies the routing instance that wlan-gw gateway endpoint resides in.

The **no** form of the command removes the value from the wlan-gw configuration.

Default none

Parameters *router-instance* — Specifies the identifier of the virtual router instance where the tunneled User Equipment traffic is routed.

tcp-mss-adjust

Syntax **tcp-mss-adjust** *segment-size*
no tcp-mss-adjust

Context config>service>ies>subscriber-interface>group-interface>wlan-gw
config>service>vprn>subscriber-interface> group-interface>wlan-gw

Description This command configures the TCP Maximum Segment Size (MSS) adjustment for the wlan-gw gateway.

The **no** form of the command disables adjusting tcp-mss values.

Default none

Parameters *segment-size* — Specifies the value to put into the TCP Maximum Segment Size (MSS) option if not already present, or if the present value is higher.

Values 160 — 10240

tunnel-encaps

Syntax **tunnel-encaps**

Context config>service>ies>subscriber-interface>group-interface>wlan-gw
config>service>vprn>subscriber-interface> group-interface>wlan-gw

Description This command enables the context to configure tunnel encapsulation parameters.

learn-l2tp-cookie

Syntax **learn-l2tp-cookie** {if-match|never|always} [**cookie** *hex string*]
no learn-l2tp-cookie

Context config>service>ies>subscriber-interface>group-interface>wlan-gw
config>service>vprn>subscriber-interface> group-interface>wlan-gw

Description This command specifies when this system will learn the cookie from L2TP tunnels terminating on this interface. Learning the cookie means that the value of the octets 3-8 of the cookie is interpreted as an access point's MAC address, and used as such, for example in the Called-Station-Id attribute of RADIUS Interim-Update messages.

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- Parameters**
- if-match** — Specifies that the cookie will be interpreted only if the value of the first two octets of the cookie is equal to the value of the object `tmnxWlanGwSoftGreIfL2tpCookie`.
 - cookie** *hex string* — Only valid if `if-match` is used. Specifies the value used to compare the first two bytes of the cookie. Specified in HEX format, possible range [0x0000 .. 0xFFFF]
 - Values** [0x0000..0xFFFF...(4 hex nibbles)]
 - never** — Specifies that the cookie value will always be ignored.
 - always** — Always learn the AP-MAC from the cookie, no matter what the value of the first two bytes is.

vlan-tag-ranges

- Syntax** **vlan-tag-ranges**
- Context** `config>service>ies>subscriber-interface>group-interface>wlan-gw`
`config>service>vprn>subscriber-interface> group-interface>wlan-gw`
- Description** This command enables the context to configure `vlan-to-retail-map` parameters to map dot1Q tags to retail-service-id. The WIFI AP could insert a dot1Q tag in the Layer 2 frame within the GRE tunnel to indicate the retail service provider for the subscriber.
- Default** none

default-retail-svc-id

- Syntax** **default-retail-svc-id** *service-id*
no default-retail-svc-id
- Context** `config>service>ies>subscriber-interface>group-interface>wlan-gw>vlan-tag-ranges`
`config>service>vprn>subscriber-interface> group-interface>wlan-gw>vlan-tag-ranges`
- Description** This command specifies the id of default retail service if there is no match found in VLAN to retail map configuration (specified by the **vlan** command). For DSM and migrant, this command is only applicable for non-NAT stacks.
- Default** none
- Parameters** *service-id* — specifies the identifier of the retail service to be used by default of a value in the retail service map of this interface.
- Values** 1 — 2147483650
svc-name: up to 64 characters in length.

retail-svc-id

- Syntax** **retail-svc-id** *service-id*
no retail-svc-id

Context	config>service>vprn>sub-if>grp-if>wlan-gw config>service>ies>sub-if>grp-if>wlan-gw
Description	This command configures the retailer service.
Parameters	<i>service-id</i> — specifies the identifier of the retail service.
Values	1 — 2147483650 svc-name: up to 64 characters in length.

router-advertisements

Syntax	[no] router-advertisements
Context	config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range
Description	This command configures IPv6 router advertisements for this group-interface.

current-hop-limit

Syntax	[no] current-hop-limit <i>limit</i>
Context	config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range>router-advertisements config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range>router-advertisements
Description	This command configures the hop-limit advertised for this group-interface.
Default	64
Parameters	<i>limit</i> — Specifies the default value to be placed in the current hop limit field in router advertisements sent from this interface.
Values	0 — 255

vlan

Syntax	vlan start [0..4095] end [0..4095] retail-svc-id <i>service-id</i> no vlan start [0..4095] end [0..4095]
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw>retailer config>service>vprn>subscriber-interface> group-interface>wlan-gw>retailer
Description	This command creates a mapping from a range of VLANs (appearing in the wlan-gw encapsulated Layer 2 frame) to a retail service ID. The no form of the command removes the parameters from the configuration.
Default	none

WLAN-GW Group Interface Commands

Parameters	start [0..4095] — Specifies the start VLAN tag of this range.
	Values
	end [0..4095] — Specifies the end VLAN tag of this range.
	Values
	retail-svc-id <i>service-id</i> — Specifies the identifier of the retail service to be used by default of a value in the retail service map of this interface.
	Values 1 — 2147483650 svc-name: up to 64 characters in length.

wlan-gw-group

Syntax	wlan-gw-group <i>group-id</i> no wlan-gw-group
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface> group-interface>wlan-gw
Description	This command specifies the id of wlan-gw-group that the wlan-gw gateway binds to. The no form of the command removes the value from the wlan-gw configuration.
Default	none
Parameters	<i>group-id</i> — Specifies the ISA WLAN-GW group.
	Values 1 — 4

pool-manager

Syntax	pool-manager
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw config>service>vprn>subscriber-interface> group-interface>wlan-gw
Description	This command enables the context to configure pool manager data for a WLAN GW subscriber interface.

dhcpv6-client

Syntax	dhcpv6-client
Context	config>service>ies>subscriber-interface>group-interface>wlan-gw>pool-manager config>service>vprn>subscriber-interface> group-interface>wlan-gw>pool-manager
Description	This command configures the DHCPv6 client for the pool manager.

ia-na

Syntax **ia-na**

Context config>service>ies>subscriber-interface>group-interface>wlan-gw>pool-manager
config>service>vprn>subscriber-interface> group-interface>wlan-gw>pool-manager

Description This command configures the DHCPv6 client for the pool manager.

link-addr

Syntax **link-addr** *ipv6-address*
no link-addr

Context config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>slaac
config>service>ies>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>slaac
config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>ia-na
config>service>ies >sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>ia-na

Description This command specifies the ipv6-address that should be included in the link-address field of the relay header. This can be used for pool-selection by the DHCPv6 server.

The **no** form of this command falls back to the default.

Default 0::0

Parameters *ipv6-address* — Specifies the IPv6 address up to 32 characters.

pool-name

Syntax **pool-name** *name*
no pool-name

Context config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>slaac
config>service>ies>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>slaac
config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>ia-na
config>service>ies>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt>ia-na

Description This command specifies the pool name that should be sent in the DHCPv6 messages. This will be reflected in the Alcatel-Lucent vendor specific pool option (vendor-id 6527, option-id 0x02).

The **no** form of this command removes pool-name and the option will not be sent in DHCPv6.

Parameters *name* — Specifies the pool name up with 32 characters.

lease-query

Syntax **lease-query** [**max-retry** **Max nbr of retries**]
no lease-query

WLAN-GW Group Interface Commands

Context config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt
config>service>ies>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt

Description This command enables lease-query. If this is specified the dhcpv6-client will retrieve any existing addresses when becoming active. The lease-query is performed for all of the configured servers
The **no** form of this command disables lease-query.

Parameters *max-retry* — Specifies the maximum number of retries before the lease query assumes no existing subnets were allocated.

Values 0 — 10

server

Syntax **server** *ipv6-address* [*ipv6-address...*(upto 8 max)]
no server [*ipv6-address* [*ipv6-address...*(upto 8 max)]]

Context config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt
config>service>ies>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt

Description This specifies the DHCPv6 servers that are used for requesting addresses. Up to 8 servers can be used simultaneously.

The **no** form of this command removes the server. This cannot be executed while any dhcpv6 client application is not shutdown.

Default none

Parameters *ipv6-address* — Specifies the unicast IPv6 address of a DHCPv6 server.

slaac

Syntax **slaac**

Context config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt
config>service>ies>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt

Description This command configures SLAAC for the DHCPv6 client.

source-ip

Syntax **source-ip** *ipv6-address*
no source-ip

Context config>service>vprn>sub-if>wlan-gw>pool-mgr>dhcpv6-clnt
config>service>ies >sub-if>wlan-gw>pool-mgr>dhcpv6-clnt

Description This command specifies the source-ip to be used by the DHCPv6 client.

The **no** form of this command removes the specific source-ip. In this case the DHCPv6 client will fall back to the IP address configured on the outgoing interface.

Parameters *ipv6-address* — Specifies the IPv6 address up to 32 characters.

watermarks

Syntax **watermarks high** *high-percentage* **low** *low-percentage*
no watermarks

Context config>service>vprn>sub-if>wlan-gw>pool-mgr
config>service>ies>sub-if>wlan-gw>pool-mgr

Description This command configures the watermarks used to determine if a new prefix should be allocated or an old prefix should be removed. A new prefix will be allocated when the total usage level for the ISA reaches the high watermark. A prefix will be freed if no addresses are currently in use and the usage level without this prefix would be below the low watermark.

The **no** form of this command resets the watermarks to its default values of 95% high and 90% low.

Default watermarks high 95 low 90

Parameters **high** *high-percentage* — Specifies the high watermark.

Values 80 — 99

low *low-percentage* — Specifies the low watermark. The value must be lower than the high percentage value.

Values 50 — 98

wlan-gw-group

Syntax **wlan-gw-group** *nat-group-id*
no wlan-gw-group

Context config>service>vprn>sub-if>wlan-gw>pool-mgr
config>service>ies>sub-if>wlan-gw>pool-mgr

Description This command specifies the ISA WLAN Gateway group.

Default none

Parameters *nat-group-id* — Specifies the identifier of the WLAN Gateway group.

Values 1 — 4

redundancy

Syntax **redundancy**

Context config>service>ies>subscriber-interface>wlan-gw

WLAN-GW Group Interface Commands

Description This command enables the context to configure WLAN-GW redundancy-related parameters.

Default none

export

Syntax **export** *ip-prefix/length*
no export

Context config>service>ies>subscriber-interface>wlan-gw>redundancy

Description This command specifies an IPv4 route (prefix/length) per subscriber-interface to be exported (announced) to indicate liveness of the subscriber-interface on the WLAN-GW. This route is the one that is monitored in routing by the peer WLAN-GW to decide its state with respect.

Default none

Parameters *ip-prefix/length* — Specifies the IP prefix and length.

Values ip-prefix:a.b.c.d
ip-prefix-length: 0 — 32

monitor

Syntax **monitor** *ip-prefix/length*
no monitor

Context config>service>ies>subscriber-interface>wlan-gw>redundancy

Description This command specifies an IPv4 route (prefix/length) per subscriber-interface to be monitored in the FIB to determine liveness of the subscriber-interface (and consequently all associated group-interfaces of type wlangw) on a peer WLAN-GW. This route is the one that is advertised in routing by the peer WLAN-GW when the subscriber-interface and WLAN-GW group are operationally up

Default none

Parameters *ip-prefix/length* — Specifies the IP prefix and length.

Values ip-prefix:a.b.c.d
ip-prefix-length: 0 — 32

Migrant User Support Commands

http-redirect-policy

Syntax	http-redirect-policy <i>policy-name</i> no http-redirect-policy
Context	config>subscr-mgmt
Description	This command configures the redirect policy to constrain forwarding of an unauthenticated “migrant” WIFI user.
Default	none
Parameters	<i>policy-name</i> — Specifies the HTTP redirect policy name up to 32 characters in length.

forward-entries

Syntax	forward-entries
Context	config>subscr-mgmt>http-rdr-plcy
Description	Enters the context to configure entries that need to be forwarded
Default	none

dst-port

Syntax	dst-port <i>tcp-port</i> no dst-port
Context	config>subscr-mgmt>http-rdr-plcy
Description	This command specifies the port to match the destination port in the HTTP request. HTTP traffic that does not match this port, is not redirected.
Default	80
Parameters	<i>tcp-port</i> — Specifies the TCP port. Values 1 — 65535]

dst-ip

Syntax **dst-ip** *ip-address* **protocol** *ip-protocol* **dst-port** *port-number*
dst-ip *ip-address* **protocol** *ip-protocol* **dst-port** *port-number* **prefix-length** *prefix-length*
no dst-ip *ip-address* **protocol** *ip-protocol* **dst-port** *port-number*

Context config>subscr-mgmt>http-rdr-plcy

Description This command configures traffic flow to be forwarded via match in the redirect policy.

Default none

Parameters *ip-address* — Specifies the IPv4 or IPv6 address to match the destination address in the IP header of the traffic received from the subscriber.

prefix-length — Specifies the length of the prefix specified by the ip-address.

Values 1 — 128 for IPv6
 1 — 32 for IPv4

protocol *ip-protocol* — Specifies the protocol to match the IP protocol in the IP header of the traffic received from the subscriber.

Values tcp, udp

dst-port *port-number* — Specifies the port to match the destination port in the HTTP request.

Values 1 — 65535

portal-hold-time

Syntax **portal-hold-time** *seconds*
no portal-hold-time

Context config>subscr-mgmt>http-rdr-plcy

Description This command configures the time for which the forwarding state applicable during redirect phase is held in the system, after the user has been authenticated on the portal. This allows the http response from the portal to be forwarded back on the existing connection.

none

Parameters *seconds* — Specifies how long the system holds on to re-direct forwarding resources of a subscriber, after it has left the re-direct portal.

Values 1 — 60

url

Syntax **url** *rdr-url-sting*
no url

Context config>subscr-mgmt>http-rdr-plcy

Description	This command configures the HTTP URL to re-redirect the matching traffic to. It also can specify inclusion of original URL, MAC address and IP address of the subscriber in the redirect URL. none	
Parameters	<i>rdr-url-string</i> — Specifies the URL to redirect to.	
	Values	<i>rdr-url-string</i> [255 chars max]
		macro substitutions:
	\$URL	Request-URI in the HTTP GET Request received
	\$MAC	string that represents the MAC address of the subscriber host
	\$IP	a string that represents the IP address of the subscriber host

wlan-gw

Syntax	wlan-gw
Context	config>service>vprn>sub-if>grp-if config>service>ies>sub-if>grp-if
Description	This command enables the context to configure wlan-gw parameters.

vlan-tag-ranges

Syntax	vlan-tag-ranges
Context	config>service>vprn>sub-if>grp-if>wlan-gw config>service>ies>sub-if>grp-if>wlan-gw
Description	This command enters the context for per vlan range configuration.
Default	none

default-retail-svc-id

Syntax	default-retail-svc-id <i>service-id</i>
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges config>service>ies>sub-if>grp-if>wlan-gw>ranges
Description	This command configures the default retailer service for WIFI users.
Default	none

range

Syntax	range start [0..4096] end [0..4096] range default
---------------	---

Migrant User Support Commands

no range start [0..4096] **end** [0..4096]

Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges config>service>ies>sub-if>grp-if>wlan-gw>ranges
Description	This command creates or enters the context of specified VLAN range for configuration applicable to that range of VLANs.
Default	none
Parameters	start [0..4096] — Specifies the start of the vlan range. end [0..4096] — Specifies the end of vlan the range. default — Configures defaults for the interface.

distributed-sub-mgmt

Syntax	distributed-sub-mgmt
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range config>service>ies>sub-if>grp-if>wlan-gw>ranges>range
Description	This command enables the context to configure distributed-sub-mgmt configuration per vlan-range. This also includes vlan-range default, which makes this configuration applicable to the wlan-gw group-interface.
Default	none

accounting-policy

Syntax	accounting-policy <i>policy-name</i> no accounting-policy
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt
Description	This command specifies the isa-radius-policy used for accounting messages originated from the ISAs in the wlan-gw group. The policy can specify up to five accounting servers and configuration-specific to these accounting servers. It also specifies configuration specific to RADIUS client on ISAs and RADIUS attributes to be included in accounting messages.
Default	none
Parameters	<i>policy-name</i> — Specifies the name of the account policy up to 32 characters in length.

accounting-update-interval

Syntax **accounting-update-interval** [5..259200]
no accounting-update-interval

Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt
Description	This command enables the interim accounting and specifies the interim accounting interval.
Default	none
Parameters	5..259200 — Specifies the interim accounting interval in seconds.

def-app-profile

Syntax	def-app-profile <i>profile-name</i> no def-app-profile
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt
Description	This command configures the default application profile.

dsm-ip-filter

Syntax	dsm-ip-filter <i>dsm-ip-filter-name</i> no dsm-ip-filter
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt
Description	This command configures an IP filter that is distributed on ISA cards. This command specifies the IP filter applied to all UEs corresponding to default vlan-range (such as a group-interface) or the specified vlan-range. The IP filter can be created in the subscr-mgmt>wlan-gw>distributed-sub-mgmt context, and can contain up to 1024 match entries. The IP filter can be overridden per UE from RADIUS via access-accept or COA.
Default	none
Parameters	<i>dsm-ip-filter-name</i> — Specifies the identifier of the distributed-sub-mgmt IP filter.

egress-policer

Syntax	egress-policer [256 chars max] no egress-policer
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt
Description	This command specifies the egress policer applied to all UEs corresponding to default vlan-range (such as, group-interface) or the specified vlan-range. The policer can be created in the subscr-mgmt>wlan-gw>distributed-sub-mgmt context. The egress policer can be overridden per UE from RADIUS via access-accept or COA.

Migrant User Support Commands

Default	none
Parameters	<i>256 chars max</i> — Specifies the identifier of the distributed-sub-mgmt policer for egress traffic.

ingress-policer

Syntax	ingress-policer <i>policer-name</i> no ingress-policer
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt
Description	.This command specifies the ingress policer applied to all UEs corresponding to default vlan-range (such as group-interface) or the specified vlan-range. The policer can be created in the subscr-mgmt>wlan-gw>distributed-sub-mgmt context. The ingress policer can be overridden per UE from RADIUS via access-accept or COA.
Default	none
Parameters	<i>policer-name</i> — Specifies the identifier of the distributed-sub-mgmt policer for ingress traffic.

one-time-redirect

Syntax	one-time-redirect url <i>rdr-url-string</i> port <i>port-num</i> no one-time-redirect
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>distrib-sub-mgmt
Description	This command enables one-time http-redirect to specified redirect URL for traffic matching the specified destination port.
Default	none
Parameters	url <i>rdr-url-string</i> — Specifies the HTTP web address that will be sent to the user's browser. port <i>port-num</i> — Specifies the destination port number as a decimal hex or binary.
Values	1 — 65535

dhcp

Syntax	dhcp
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges config>service>ies>sub-if>grp-if>wlan-gw>ranges
Description	Enters the context to create DHCP configuration for WLAN-GW ISA subscribers (e.g. migrant subscribers).
Default	none

dhcp6

Syntax	dhcp6
Context	config>service>vprn>sub-if>grp-if>wlan-gw>ranges config>service>ies>sub-if>grp-if>wlan-gw>ranges
Description	Enters the context to create DHCP6 configuration for WLAN-GW ISA subscribers.
Default	none

active-preferred-lifetime

Syntax	active-preferred-lifetime [hrs <i>hours</i>] [min <i>minutes</i>] [sec <i>seconds</i>] no active-preferred-lifetime
Context	config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range>dhcp6 config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range>dhcp6 config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range>slaac config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range>slaac
Description	This command specifies the signaled preferred lifetime in DHCPv6 or SLAAC after full authentication. This is only applicable to DSM.
Default	min 10
Parameters	hrs <i>hours</i> — Specifies the number of active preferred lifetime hours. Values 1 — 1 min <i>minutes</i> — Specifies the number of active preferred lifetime minutes. Values 5 — 59 sec <i>seconds</i> — Specifies the number of active preferred lifetime seconds. Values 1 — 59 Combined values: min 5 – hrs 1

active-valid-lifetime

Syntax	active-valid-lifetime [hrs <i>hours</i>] [min <i>minutes</i>] [sec <i>seconds</i>] no active-valid-lifetime
Context	config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range>dhcp6 config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range>dhcp6 config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range>slaac config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range>slaac
Description	This command specifies the signaled valid lifetime in DHCPv6 or SLAAC after full authentication. This is only applicable to DSM.

Default min 10

Parameters **hrs** *hours* — Specifies the number of active-valid-lifetime hours.

Values 1 — 1

min *minutes* — Specifies the number of active-valid-lifetime minutes.

Values 5 — 59

sec *seconds* — Specifies the number of active-valid-lifetime seconds.

Values 1 — 59

active-lease-time

Syntax **active-lease-time** [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
no active-lease-time

Context config>service>vprn>sub-if>grp-if>wlan-gw>dhcp
 config>service>ies>sub-if>grp-if>wlan-gw>dhcp
 config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp
 config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp

Description This command configures the lease time for an authenticated user.

Default none

Parameters **hrs** *hours* — Specifies the number of initial lease time hours.

Values 1 — 1

min *minutes* — Specifies the number of initial lease time minutes.

Values 5 — 59

sec *seconds* — Specifies the number of initial lease time seconds.

Values 1 — 59

initial-preferred-lifetime

Syntax **initial-preferred-lifetime** [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
no initial-preferred-lifetime

Context config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range>dhcp6
 config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range>dhcp6
 config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range>slaac
 config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range>slaac

Description This command specifies the signaled preferred lifetime in DHCPv6 or SLAAC after full authentication (DSM and/or ESM).

Default min 10

Parameters	hrs <i>hours</i> — Specifies the number of initial preferred lifetime hours. Values 1 — 1
	min <i>minutes</i> — Specifies the number of initial preferred lifetime minutes. Values 5 — 59
	sec <i>seconds</i> — Specifies the number of initial preferred lifetime seconds. Values 1 — 59 Combined values: min 5 – hrs 1

initial-valid-lifetime

Syntax	initial-valid-lifetime [hrs <i>hours</i>] [min <i>minutes</i>] [sec <i>seconds</i>] no initial-valid-lifetime
Context	config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range>dhcp6 config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range>dhcp6 config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range>slaac config>service>ies>sub-if>grp-if>wlan-gw>vlan-ranges>range>slaac
Description	This command specifies the signaled preferred lifetime in DHCPv6 or SLAAC during a migrant phase.
Default	min 5
Parameters	hrs <i>hours</i> — Specifies the number of initial preferred lifetime hours. Values 1 — 1
	min <i>minutes</i> — Specifies the number of initial preferred lifetime minutes. Values 5 — 59
	sec <i>seconds</i> — Specifies the number of initial preferred lifetime seconds. Values 1 — 59 Combined values: min 5 – hrs 1

initial-lease-time

Syntax	initial-lease-time [hrs <i>hours</i>] [min <i>minutes</i>] [sec <i>seconds</i>] no initial-lease-time
Context	config>service>vprn>sub-if>grp-if>wlan-gw>dhcp config>service>ies>sub-if>grp-if>wlan-gw>dhcp config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp
Description	This command configures the lease time for a user which is migrant (unauthenticated).
Default	none

Migrant User Support Commands

Parameters	hrs <i>hours</i> — Specifies the number of initial lease time hours. Values 1 — 1
	min <i>minutes</i> — Specifies the number of initial lease time minutes. Values 5 — 59
	sec <i>seconds</i> — Specifies the number of initial lease time Biteme#24ds. Values 1 — 59

l2-aware-ip-address

Syntax	l2-aware-ip-address <i>ip-address</i> no l2-aware-ip-address
Context	config>service>vprn>sub-if>grp-if>wlan-gw>dhcp config>service>ies>sub-if>grp-if>wlan-gw>dhcp config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp
Description	This command configures the l2-aware NAT inside IP address to be assigned via DHCP on WLAN-GW ISA.
Default	none
Parameters	<i>ip-address</i> — Specifies the l2-aware NAT inside IP address.

primary-dns

Syntax	primary-dns <i>ip-address</i> no primary-dns
Context	config>service>vprn>sub-if>grp-if>wlan-gw>dhcp config>service>ies>sub-if>grp-if>wlan-gw>dhcp config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp
Description	This command configures the primary DNS address to be returned via DHCP on WLAN-GW ISA.
Default	none
Parameters	<i>ip-address</i> — Specifies the primary DNS address

secondary-dns

Syntax	secondary-dns <i>ip-address</i> no secondary-dns
Context	config>service>vprn>sub-if>grp-if>wlan-gw>dhcp

```
config>service>ies>sub-if>grp-if>wlan-gw>dhcp
config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp
config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp
```

Description	This command configures the secondary DNS address to be returned via DHCP on WLAN-GW ISA.
Default	none
Parameters	<i>ip-address</i> — Specifies the secondary DNS address.

primary-nbns

Syntax	primary-nbns <i>ip-address</i> no primary-nbns
Context	config>service>vprn>sub-if>grp-if>wlan-gw>dhcp config>service>ies>sub-if>grp-if>wlan-gw>dhcp config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp
Description	This command configures the primary NBNS address to be returned via DHCP on WLAN-GW ISA.
Default	none
Parameters	<i>ip-address</i> — Specifies the primary NBNS address.

secondary-nbns

Syntax	secondary-nbns <i>ip-address</i> no secondary-nbns
Context	config>service>vprn>sub-if>grp-if>wlan-gw>dhcp config>service>ies>sub-if>grp-if>wlan-gw>dhcp config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>dhcp config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>dhcp
Description	This command configures the secondary NBNS address to be returned via DHCP on WLAN-GW ISA.
Default	none
Parameters	<i>ip-address</i> — Specifies the secondary NBNS address.

idle-timeout

Syntax	idle-timeout action <i>idle-timeout-action</i> no idle-timeout
Context	config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range config>service>ies >sub-if>grp-if>wlan-gw>vlan-ranges>range

Migrant User Support Commands

Description	This command specifies idle-timeout behavior for DSM UEs and UEs undergoing (ISA-based) portal authentication. This knob only specifies the desired action, idle-timeout is activated by RADIUS on a per-UE basis. The no form of the command resets the idle-timeout to its default
Default	idle-timeout action remove
Parameters	<i>action</i> — Specifies which action to perform when the idle-timeout timer goes off. Values remove, shev

http-redirect-policy

Syntax	http-redirect-policy <i>policy-name</i> no http-redirect-policy
Context	config>service>vprn>sub-if>grp-if>wlan-gw config>service>ies>sub-if>grp-if>wlan-gw config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range config>service>ies>sub-if>grp-if>wlan-gw>ranges>range
Description	This command specifies http redirect policy on ISA to redirect http traffic to the URL specified in the policy.
Default	none
Parameters	<i>policy-name</i> — Specifies the name of the http redirect policy under subscriber-management context.

l2-service

Syntax	l2-service <i>service-id</i> no l2-service
Context	config>service>vprn>sub-if>grp-if>wlan-gw>vlan-ranges>range config>service>ies >sub-if>grp-if>wlan-gw>vlan-ranges>range
Description	This command specifies the VPLS service used for L2 wholesale. When such a service is configured no other configuration is allowed under the vlan-range. The no form of the command removes the L2 wholesale service, this is only allowed if the l2-service node is shutdown.
Parameters	<i>service-id</i> — Specifies the VPLS service ID to use for Layer 2 wholesale.

nat-policy

Syntax	nat-policy <i>policy-name</i> no nat-policy
Context	config>service>vprn>sub-if>grp-if>wlan-gw

```
config>service>ies>sub-if>grp-if>wlan-gw
config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range
config>service>ies>sub-if>grp-if>wlan-gw>ranges>range
```

Description This command specifies the NAT policy for WLAN-GW ISA subscribers.

Default none

authentication

Syntax **authentication**

Context config>service>vprn>sub-if>grp-if>wlan-gw
 config>service>ies>sub-if>grp-if>wlan-gw
 config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range
 config>service>ies>sub-if>grp-if>wlan-gw>ranges>range

Description Enters the context to create configuration for authenticating a user from the WLAN-GW ISA.

Default none

authenticate-on-dhcp

Syntax [**no**] **authenticate-on-dhcp**

Context config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range
 config>service>ies>sub-if>grp-if>wlan-gw>ranges>range

Description This command enables initial authentication (when there is no state for the UE on the ISA), to be triggered by DHCP DISCOVER or REQUEST. The default behavior is authentication based on first Layer 3 packet.

Default none

authentication-policy

Syntax **authentication-policy** *policy-name*
no authentication-policy

Context config>service>vprn>sub-if>grp-if>wlan-gw>authentication
 config>service>ies>sub-if>grp-if>wlan-gw>authentication
 config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>authentication
 config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>authentication

Description This command specifies authentication policy configured under aaa context for authenticating users on WLAN-GW ISA.

Default none

Parameters *policy-name* — Specifies the name of the authentication policy up to 32 characters in length.

hold-time

Syntax	hold-time [<i>hrs hours</i>] [<i>min minutes</i>] [<i>sec seconds</i>] no hold-time
Context	config>service>vprn>sub-if>grp-if>wlan-gw>authentication config>service>ies>sub-if>grp-if>wlan-gw>authentication config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>authentication config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>authentication
Description	This command configures the minimum time that a user is held down after a failed authentication attempt.
Default	.none
Parameters	hrs <i>hours</i> — the minimum time that a user is held down in hours. Values 1 — 1 min <i>minutes</i> — the minimum time that a user is held down in minutes Values 5 — 59 sec <i>seconds</i> — the minimum time that a user is held down in seconds. Values 1. — 59

data-triggered-ue-creation

Syntax	[no] data-triggered-ue-creation
Context	config>service>vprn>sub-if>grp-if>wlan-gw config>service>ies>sub-if>grp-if>wlan-gw config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range config>service>ies>sub-if>grp-if>wlan-gw>ranges>range
Description	This command enables or disables data-triggered subscriber creation for WIFI subscribers. Data triggered UE creation is currently only supported for UDP and TCP packets.
Default	none

track-mobility

Syntax	track-mobility
Context	config>service>vprn>sub-if>grp-if>wlan-gw config>service>ies>sub-if>grp-if>wlan-gw config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range config>service>ies>sub-if>grp-if>wlan-gw>ranges>range
Description	This command enters the context to configure RADIUS-proxy cache information required for subscribers that are created via “data-triggered” authentication. The RADIUS proxy cache enables efficient handling of UE mobility.

none

mac-format

Syntax	mac-format <i>mac-format</i> no mac-format												
Context	config>service>vprn>sub-if>grp-if>wlan-gw>track-mobility config>service>ies>sub-if>grp-if>wlan-gw>track-mobility config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>track-mobility config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>track-mobility												
Description	This command configures how the MAC address is represented by the RADIUS proxy server.												
Default	none												
Parameters	<i>mac-format</i> — Specifies how the MAC address is represented by the RADIUS proxy server												
Values	<table> <tr> <td>mac-format</td> <td>like ab:</td> <td>for 00:0c:f1:99:85:b8</td> </tr> <tr> <td></td> <td>or XY-</td> <td>for 00-0C-F1-99-85-B8</td> </tr> <tr> <td></td> <td>or mmmm.</td> <td>for 0002.03aa.abff</td> </tr> <tr> <td></td> <td>or xx</td> <td>for 000cf19985b8</td> </tr> </table>	mac-format	like ab:	for 00:0c:f1:99:85:b8		or XY-	for 00-0C-F1-99-85-B8		or mmmm.	for 0002.03aa.abff		or xx	for 000cf19985b8
mac-format	like ab:	for 00:0c:f1:99:85:b8											
	or XY-	for 00-0C-F1-99-85-B8											
	or mmmm.	for 0002.03aa.abff											
	or xx	for 000cf19985b8											

radius-proxy-cache

Syntax	radius-proxy-cache <i>router router-instance server server-name</i> no radius-proxy-cache				
Context	config>service>vprn>sub-if>grp-if>wlan-gw>track-mobility config>service>ies>sub-if>grp-if>wlan-gw>track-mobility config>service>vprn>sub-if>grp-if>wlan-gw>ranges>range>track-mobility config>service>ies>sub-if>grp-if>wlan-gw>ranges>range>track-mobility				
Description	This command specifies the RADIUS-proxy server to allow subscribers created via data-triggered authentication to create an entry. This RADIUS proxy cache entry allows efficient handling of UE mobility.				
Default	none				
Parameters	router <i>router-instance</i> — Specifies the router instance.				
Values	<table> <tr> <td>router-name</td> <td>Base</td> </tr> <tr> <td>service-id</td> <td>1 — 2147483647</td> </tr> </table>	router-name	Base	service-id	1 — 2147483647
router-name	Base				
service-id	1 — 2147483647				
	server <i>server-name</i> — Specifies the server name up to 32 characters in length.				

sap-template

Syntax	sap-template <i>sap template</i> no sap-template
Context	config>service>vpls>wlan-gw
Description	This command specifies the vpls-sap-template that will be applied on the internal SAPs created for communication between the VPLS and the ISAs. The no form of the command removes the SAP template.
Parameters	<i>sap-template</i> — Specifies the SAP template to apply. The template is a vpls-sap-template created in the service>template context.

Distributed Subscriber Management Commands

dsm-ip-filter

Syntax **dsm-ip-filter** *name* [**create**]
no dsm-ip-filter *name*

Context config>subscr-mgmt>wlan-gw>dsm

Description This command configures a set of filter rules that can be applied to a DSM UE.
The **no** form of this command can only be executed if no entries are configured under this filter.

Parameters *filter-name* — Specifies the name of the filter as it will be referred to in other contexts.
create — Keyword used to create a **dsm-ip-filter** name. The **create** keyword requirement can be enabled/disabled in the **environment>create** context.

default-action

Syntax **default-action** {**drop**|**forward**}
no default-action

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6

Description The default action specifies what should happen to packets that do not match any of the configured entries.
The **no** form of this command reverts to the default.

Default default-action drop

Parameters **drop** — Drops the packet.
forward — Forwards the packet.

entry

Syntax **entry** *entry-id* [**create**]
no entry *entry-id*

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6

Description This command configures a new entry for this filter. When processing a packet, entries are matched in order, starting with the lowest entry-id. A maximum of 128 IPv4 and 128 IPv6 DSM filter entries are allowed box-wide.
The **no** form of this command reverts to the default.

Distributed Subscriber Management Commands

Parameters *entry-id* — Specifies the id of this filter entry.

action

Syntax **action {drop|forward|none}**
no action

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>entry
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6>entry

Description The action specifies what should happen to packets that do match this entry. If the configured action is none, this entry is not applied and processing will continue to match against subsequent entries.
The **no** form of this command reverts to the default.

Default action none

Parameters **drop** — Drops the packet.
forward — Forwards the packet.
none — Disables this entry. Packet processing continues with the next entry.

match

Syntax **match protocol {any|icmp|tcp|udp|gre}**
no match

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>entry
config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>ipv6>entry

Description This command creates a match context for this entry. The protocol specifies which Layer-4 protocol the packet should match.
The **no** form of this command removes the match context of this entry.

Default no match

Parameters **any** — Matches any protocol.
icmp — Matches ICMP packets in a v4 filter.
tcp — Matches TCP packets.
udp — Matches UDP packets.
gre — Matches GRE over IP packets.

dst-ip

Syntax **dst-ip ip-prefix/length**
no dst-ip

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>entry

Description This command specifies that the packet's destination IP address must match the specified IP prefix + mask.

The no form of this command disables the match on destination IP.

Default no dst-ip

Parameters *ip-prefix/length* — Specifies the IP prefix to match on.

dst-port

Syntax **dst-port** *operator port-number*
no dst-port

Context config>subscr-mgmt>wlan-gw>dsm>dsm-ip-filter>entry

Description This command specifies that the packet's destination IP address must match the specified IP prefix + mask.

The **no** form of this command disables the match on destination IP.

Default no dst-ip

Parameters *ip-prefix/length* — Specifies the IP prefix to match on.

dsm-policer

Syntax **dsm-policer** *policer-name* [**type** *policer-type*] [**create**]
no dsm-policer *policer-name*

Context config>subscr-mgmt>wlan-gw>dsm

Description This command creates a policer profile that can be applied to a DSM host. When creating a profile the first time, both the **create** and **type** parameters are required.

The WLAN-GW allows configuration of both single-rate and dual-rate bucket policers.

The **no** form of this command removes the profile.

Parameters *policer-name* — The name by which this policer will be referenced.

type *policer-type* — Specifies the policer type. The dual-bucket-bandwidth policer applies both a CIR and PIR.

Values single-bucket-bandwidth, dual-bucket-bandwidth

action

Syntax **action** {**permit-deny**|**priority-mark**}
no action

Distributed Subscriber Management Commands

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description This command specifies what should happen with packets that are in-profile and out-of-profile. The **no** value of this command reverts to its default.

Default action permit-deny

Parameters **permit-deny** — Drop all packets that are out of profile (do not conform to the PIR).
priority-mark — Currently not supported, the policer will take no action.

adaptation-rule

Syntax **adaptation-rule** pir *adaptation-rule* [**cir** {*adaptation-rule*}]
no adaptation-rule

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description For operational efficiency the operational rate of a policer cannot take on every value in the configurable range. This configuration defines rule has to be followed when mapping a configured rate to an operational rate.

The **cir adaptation-rule** can only be set on dual-bucket-bandwidth policers.

The **no** form of this command reverts to its default.

Context adaptation-rule pir closest cir closest

Parameters **min** — The operational rate must minimally be the configured rate. The first operational value bigger or equal to the configured rate will be chosen.

max — The operational rate may maximally be the configured rate. The first operational value smaller or equal to the configured rate will be chosen.

closest — Chooses the operational value closest to the configured value, lower or higher

cbs

Syntax **cbs** *burst-size*
no cbs

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description This command specifies the committed burst-size value of this policer. This can only be set on dual-bucket-bandwidth policers.

The **no** form of this command reverts to its default.

Default cbs 0

Parameters *burst-size* — The committed burst-size in kilobytes.

Values 0 — 131071

mbs

Syntax **mbs** *burst-size*
no mbs

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description This command specifies the maximum burst-size value of this policer.
 The **no** form of this command reverts to its default.

Default mbs 0

Parameters *burst-size* — The maximum burst-size in kilobytes.

Values 0 — 131071

rate

Syntax **rate** *rate* [*cir rate*]
no rate

Context config>subscr-mgmt>wlan-gw>dsm>dsm-policer

Description This command specifies at which rate the policer drains packets. The cir value is only supported on dual-bucket-bandwidth policers. If rate max is configured, no actual rate limitations are applied.
 The **no** form of this command reverts to the default.

Default rate max

Parameters *rate* — Specifies the rate in Kbps.

Values 1 — 100000000, max

Show Commands

acct-on-off-group

- Syntax** **acct-on-off-group** [*group-name*]
- Context** show>aaa
- Description** This command displays Acct-On-Off group information and the associated RADIUS server policies
- Parameters** *group-name* — Displays information pertaining to the specified acct-on-off group.

Label	Description
acct on off group name	Displays the name of a RADIUS server policy Accounting-On-Off-Group.
controlling Radius-Server-policy	Specifies the RADIUS policy that controls the Acct-On-Off group.
monitored by Radius-Server-policy	Specifies the RADIUS policy that monitors the Acct-On-Off group.
Nbr of Acct-on-off-groups displayed	Displays the number of acct-on-off-group.

Sample Output

```
# show aaa acct-on-off-group "group-1"
=====
Acct-On-Off-Group Information
=====
acct on off group name           : group-1
- controlling Radius-Server-policy :
  aaa-server-policy-3
- monitored by Radius-Server-policy :
  aaa-server-policy-4
-----
Nbr of Acct-on-off-groups displayed : 1
=====
```

radius-proxy-server

- Syntax** **radius-proxy-server** *server-name*
- radius-proxy-server** *server-name* **cache**
- radius-proxy-server** *server-name* **cache** *hex-key* *hex-string*
- radius-proxy-server** *server-name* **cache** *string-key* *string*

radius-proxy-server server-name cache summary
radius-proxy-server server-name statistics
radius-proxy-server

Context	show>router
Description	This command displays summary of RADIUS-proxy cache or specific entries.
Parameters	<p><i>server-name</i> — Displays information about the specified server name.</p> <p>cache — Displays messages used to generate the key for the cache of this RADIUS proxy server.</p> <p>hex-key <i>hex-string</i> — Displays information about the specified hex string.</p> <p>Values 0x0 — 0xFFFFFFFF (maximum of 64 hex nibbles)]</p> <p>string-key <i>string</i> — Displays information about the specified string.</p> <p>summary — Displays a summary of the cache of the RADIUS proxy servers.</p> <p>statistics — Displays statistics about the RADIUS proxy servers of this system.</p>

Label	Description
Description	Displays the description of this RADIUS proxy server.
Purpose	Displays the purpose of the RADIUS server, either accounting or authentication.
Administrative state	Displays the administrative state of this RADIUS server.
Default acct server policy	Displays the name of the default RADIUS server policy associated with this RADIUS proxy server for accounting purposes.
Default auth server policy	Displays the name of the default RADIUS server policy associated with this RADIUS proxy server for authentication purposes.
Send accounting response	Specifies if this RADIUS Proxy server itself responds with an Accounting-Response message to each received Accounting-Request instead of proxying them to a configured RADIUS server.
Last management change	Displays the sysUpTime at the time of the most recent management-initiated change
Key packet type	Displays the packet type of the RADIUS messages to use to generate the key for the cache of this RADIUS proxy server, access-request, access-accept, access-reject, access-challenge
Key attribute type	Displays the RADIUS attribute type to cache for this RADIUS proxy server. Refer to RFC 2865, <i>Remote Authentication Dial In User Service (RADIUS)</i> , Section 5 Attributes.
Key vendor ID	Displays the RADIUS Vendor-Id. Refer to RFC 2865, <i>Remote Authentication Dial In User Service (RADIUS)</i> , Section 5.25 Vendor-Specific.

Show Commands

Timeout (s)	Displays, in seconds, the timeout after which an entry in the cache will expire.
Track accounting	Displays the RADIUS accounting packets that have impact on the cache of this RADIUS proxy server.
Load balance key	Displays the key for load-balancing RADIUS messages between RADIUS servers.
Id	Displays the specifies the RADIUS Vendor-Id.
Username	Displays the
RADIUS-server-policy	Displays the RADIUS server name.
Purpose	Displays the purpose of the RADIUS server, either accounting or authentication.

Sample Output

```
system# show router 10 radius-proxy-server "myProxyServer1"
=====
RADIUS Proxy server "myProxyServer1"
=====
Description           : myDesc
Purpose               : authentication
Administrative state   : in-service
Default acct server policy : myRadiusServerPolicy1
Default auth server policy : myRadiusServerPolicy2
Send accounting response : true
Last management change : 02/17/2012 14:54:28
-----
Cache settings
-----
Administrative state   : enabled
Key packet type       : access-accept
Key attribute type    : 12
Key vendor ID         : (Not Specified)
Timeout (s)           : 60
Track accounting       : stop interim-update accounting-on accounting-off
Load balance key      : source-ip-udp
=====
Interfaces
-----
myInterface1
myInterface2
myInterface3
-----
No. of Interface(s) : 3
=====
Usernames/RADIUS server policies
=====
Id Username-match          RADIUS-server-policy      Purpose
-----
1.  aaa                    myRadiusServerPolicy2     auth
=====
system#
```


wlan-gw

Syntax	wlan-gw
Context	show>router
Description	This command displays Wireless LAN Gateway information.

isa-subnets

Syntax	isa-subnets [detail] isa-subnets [detail] interface <i>interface-name</i> isa-subnets prefix <i>ipv6-address/prefix-length</i>
Context	show>router>wlan-gw
Description	This command outputs all the prefixes in use by the wlan-gw pool-manager.
Parameters	detail — Displays detailed information for each prefix. interface <i>interface-name</i> — Displays only the prefixes associated with this subscriber-interface. ipv6-address/prefix-length — Displays details of a specific ipv6 address and prefix.

Sample Output

```

system# show router wlan-gw isa-subnets
=====
ISA Subnets
=====
Prefix                                     MDA      Family  Usage
-----
2001:db8::/48                             3/1      dhcpv6  0%
2001:db8:1::/48                           3/2      dhcpv6  0%
2001:db8:2::/48                             4/1      dhcpv6  0%
2001:db8:3::/48                             4/2      dhcpv6  0%
2001:db8:4::/48                             5/1      dhcpv6  0%
2001:db8:5::/48                             5/2      dhcpv6  0%
2001:db8:6::/48                             3/1      slaac   0%
2001:db8:7::/48                             3/2      slaac   0%
2001:db8:8::/48                             4/1      slaac   0%
2001:db8:9::/48                             4/2      slaac   0%
2001:db8:a::/48                             5/1      slaac   0%
2001:db8:b::/48                             5/2      slaac   0%
-----
No. of ISA subnets: 12
=====

*A:Dut-C# show router wlan-gw isa-subnets prefix 2001:db8::/48
=====
ISA Subnet Prefix                          : 2001:db8::/48
-----
Group Id                                    : 1
Member Id                                   : 1
MDA                                          : 3/1
Family                                       : dhcpv6

```


Sample Output

```

*A:Dut-C# show router 300 wlan-gw mgw-address-cache
=====
Mobile Gateway SNAPTR cache
=====
-----
APN                               : full.dotted.apn.apn.epc.mnc010.mcc206.
                                   3gppnetwork.org
Order                              : 10
Index                              : 1
-----
Preference                         : 10
Service                            : x-3gpp-pgw:x-gn-gtp
Next lookup                        : dns-srv
Replacement                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.
                                   3gppnetwork.org
Time left (s)                      : 3582
-----
APN                               : full.dotted.apn.apn.epc.mnc010.mcc206.
                                   3gppnetwork.org
Order                              : 20
Index                              : 2
-----
Preference                         : 20
Service                            : x-3gpp-pgw:x-s2a-gtp
Next lookup                        : dns-srv
Replacement                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.
                                   3gppnetwork.org
Time left (s)                      : 3582
-----
APN                               : full.dotted.apn.apn.epc.mnc010.mcc206.
                                   3gppnetwork.org
Order                              : 30
Index                              : 3
-----
Preference                         : 30
Service                            : x-3gpp-pgw:x-s2b-gtp
Next lookup                        : dns-srv
Replacement                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.
                                   3gppnetwork.org
Time left (s)                      : 3581
-----
No. of SNAPTR cache entries: 3
=====
Mobile Gateway SRV cache
=====
-----
APN                               : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.
                                   3gppnetwork.org
Priority                            : 10
Index                              : 1
-----
Weight                             : 10
Port                               : 2123
Target                             : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
                                   3gppnetwork.org
Time left (s)                      : 3581
-----
APN                               : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.

```

Show Commands

```

                                     3gppnetwork.org
Priority                               : 20
Index                                  : 2
-----
Weight                                 : 20
Port                                   : 2123
Target                                 : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
                                     3gppnetwork.org
Time left (s)                         : 3581
-----
APN                                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.
                                     3gppnetwork.org
Priority                               : 10
Index                                  : 1
-----
Weight                                 : 10
Port                                   : 2123
Target                                 : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.
                                     3gppnetwork.org
Time left (s)                         : 3581
-----
APN                                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.
                                     3gppnetwork.org
Priority                               : 20
Index                                  : 2
-----
Weight                                 : 20
Port                                   : 2123
Target                                 : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
                                     3gppnetwork.org
Time left (s)                         : 3581
-----
APN                                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.
                                     3gppnetwork.org
Priority                               : 10
Index                                  : 1
-----
Weight                                 : 10
Port                                   : 2123
Target                                 : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.
                                     3gppnetwork.org
Time left (s)                         : 3581
-----
APN                                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.
                                     3gppnetwork.org
Priority                               : 20
Index                                  : 2
-----
Weight                                 : 20
Port                                   : 2123
Target                                 : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.
                                     3gppnetwork.org
Time left (s)                         : 3581
-----
No. of SRV cache entries: 6
=====
Mobile Gateway address cache
=====
APN                                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
```

```

3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.23
Time left (s)              : 3581
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.29
Time left (s)              : 3581
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.35
Time left (s)              : 3581
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.24
Time left (s)              : 3581
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.30
Time left (s)              : 3581
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.36
Time left (s)              : 3581
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.25
Time left (s)              : 3581
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.31
Time left (s)              : 3581
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.37
Time left (s)              : 3581
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.26
Time left (s)              : 3580
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
                           3gppnetwork.org

```

Show Commands

```
-----  
Mobile Gateway address      : 9.0.0.32  
Time left (s)              : 3580  
-----  
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.  
                          3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.38  
Time left (s)              : 3580  
-----  
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.  
                          3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.27  
Time left (s)              : 3580  
-----  
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.  
                          3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.33  
Time left (s)              : 3580  
-----  
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.  
                          3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.39  
Time left (s)              : 3580  
-----  
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.  
                          3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.28  
Time left (s)              : 3580  
-----  
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.  
                          3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.34  
Time left (s)              : 3580  
-----  
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.  
                          3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.40  
Time left (s)              : 3580  
-----  
No. of cache entries: 18  
  
*A:Dut-C# show router 300 wlan-gw mgw-address-cache arec  
=====
```

Mobile Gateway address cache

```
=====
```

```
-----  
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.  
                          3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.23  
Time left (s)              : 3573  
-----  
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
```

```

3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.29
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
                       3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.35
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
                       3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.24
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
                       3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.30
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
                       3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.36
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.
                       3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.25
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.
                       3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.31
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.
                       3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.37
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
                       3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.26
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
                       3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.32
Time left (s)         : 3573
-----
APN                    : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
                       3gppnetwork.org

```

Show Commands

```
-----  
Mobile Gateway address      : 9.0.0.38  
Time left (s)              : 3572  
-----  
APN                         : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.  
                           3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.27  
Time left (s)              : 3572  
-----  
APN                         : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.  
                           3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.33  
Time left (s)              : 3572  
-----  
APN                         : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.  
                           3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.39  
Time left (s)              : 3572  
-----  
APN                         : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.  
                           3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.28  
Time left (s)              : 3572  
-----  
APN                         : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.  
                           3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.34  
Time left (s)              : 3572  
-----  
APN                         : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.  
                           3gppnetwork.org  
-----  
Mobile Gateway address      : 9.0.0.40  
Time left (s)              : 3572  
-----  
No. of cache entries: 18  
=====
```

*A:Dut-C# show router 300 wlan-gw mgw-address-cache srv

```
=====
```

Mobile Gateway SRV cache

```
=====
```

```
-----  
APN                         : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.  
                           3gppnetwork.org  
Priority                     : 10  
Index                       : 1  
-----  
Weight                      : 10  
Port                       : 2123  
Target                     : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.  
                           3gppnetwork.org  
Time left (s)              : 3567  
-----
```


Triple Play Service Delivery Architecture

```
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.
    3gppnetwork.org
Priority : 20
Index : 2
-----
Weight : 20
Port : 2123
Target : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
    3gppnetwork.org
Time left (s) : 3567
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.
    3gppnetwork.org
Priority : 10
Index : 1
-----
Weight : 10
Port : 2123
Target : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.
    3gppnetwork.org
Time left (s) : 3566
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.
    3gppnetwork.org
Priority : 20
Index : 2
-----
Weight : 20
Port : 2123
Target : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
    3gppnetwork.org
Time left (s) : 3566
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.
    3gppnetwork.org
Priority : 10
Index : 1
-----
Weight : 10
Port : 2123
Target : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.
    3gppnetwork.org
Time left (s) : 3566
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.
    3gppnetwork.org
Priority : 20
Index : 2
-----
Weight : 20
Port : 2123
Target : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.
    3gppnetwork.org
Time left (s) : 3566
-----
No. of SRV cache entries: 6
=====
```

Show Commands

```
*A:Dut-C# show router 300 wlan-gw mgw-address-cache snaptr
=====
Mobile Gateway SNAPTR cache
=====
-----
APN                               : full.dotted.apn.apn.epc.mnc010.mcc206.
                                3gppnetwork.org
Order                             : 10
Index                             : 1
-----
Preference                       : 10
Service                          : x-3gpp-pgw:x-gn-gtp
Next lookup                      : dns-srv
Replacement                      : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.
                                3gppnetwork.org
Time left (s)                   : 3555
-----
APN                               : full.dotted.apn.apn.epc.mnc010.mcc206.
                                3gppnetwork.org
Order                             : 20
Index                             : 2
-----
Preference                       : 20
Service                          : x-3gpp-pgw:x-s2a-gtp
Next lookup                      : dns-srv
Replacement                      : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.
                                3gppnetwork.org
Time left (s)                   : 3555
-----
APN                               : full.dotted.apn.apn.epc.mnc010.mcc206.
                                3gppnetwork.org
Order                             : 30
Index                             : 3
-----
Preference                       : 30
Service                          : x-3gpp-pgw:x-s2b-gtp
Next lookup                      : dns-srv
Replacement                      : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.
                                3gppnetwork.org
Time left (s)                   : 3554
-----
No. of SNAPTR cache entries: 3
```

```
*A:Dut-C# show router 300 wlan-gw mgw-address-cache apn full.dotted.apn.apn.epc.mnc010.mcc206.3gppnetwork.org
=====
Mobile Gateway APN Cache
=====
-----
APN > NAPTR
-----
APN                               : full.dotted.apn.apn.epc.mnc010.mcc206.
                                3gppnetwork.org
Order                             : 10
Index                             : 1
-----
Preference                       : 10
Service                          : x-3gpp-pgw:x-gn-gtp
Next lookup                      : dns-srv
```

```

Replacement                : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.
                             3gppnetwork.org
Time left (s)              : 3531
-----
APN > NAPTR > SRV
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.
                             3gppnetwork.org
Priority                    : 10
Index                      : 1
-----
Weight                     : 10
Port                       : 2123
Target                     : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
                             3gppnetwork.org
Time left (s)              : 3531
-----
APN > NAPTR > SRV > A
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
                             3gppnetwork.org
-----
Mobile Gateway address     : 9.0.0.23
Time left (s)              : 3530
-----
APN > NAPTR > SRV > A
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
                             3gppnetwork.org
-----
Mobile Gateway address     : 9.0.0.29
Time left (s)              : 3530
-----
APN > NAPTR > SRV > A
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a1.
                             3gppnetwork.org
-----
Mobile Gateway address     : 9.0.0.35
Time left (s)              : 3530
-----
APN > NAPTR > SRV
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.
                             3gppnetwork.org
Priority                    : 20
Index                      : 2
-----
Weight                     : 20
Port                       : 2123
Target                     : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
                             3gppnetwork.org
Time left (s)              : 3530
-----
APN > NAPTR > SRV > A
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.
                             3gppnetwork.org
-----
Mobile Gateway address     : 9.0.0.24
Time left (s)              : 3530

```

Show Commands

```
-----  
APN > NAPTR > SRV > A  
-----  
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.  
3gppnetwork.org  
-----  
Mobile Gateway address : 9.0.0.30  
Time left (s) : 3530  
-----  
APN > NAPTR > SRV > A  
-----  
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv1.a2.  
3gppnetwork.org  
-----  
Mobile Gateway address : 9.0.0.36  
Time left (s) : 3530  
-----  
APN > NAPTR  
-----  
APN : full.dotted.apn.apn.epc.mnc010.mcc206.  
3gppnetwork.org  
Order : 20  
Index : 2  
-----  
Preference : 20  
Service : x-3gpp-pgw:x-s2a-gtp  
Next lookup : dns-srv  
Replacement : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.  
3gppnetwork.org  
Time left (s) : 3530  
-----  
APN > NAPTR > SRV  
-----  
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.  
3gppnetwork.org  
Priority : 10  
Index : 1  
-----  
Weight : 10  
Port : 2123  
Target : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.  
3gppnetwork.org  
Time left (s) : 3529  
-----  
APN > NAPTR > SRV > A  
-----  
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.  
3gppnetwork.org  
-----  
Mobile Gateway address : 9.0.0.25  
Time left (s) : 3529  
-----  
APN > NAPTR > SRV > A  
-----  
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.  
3gppnetwork.org  
-----  
Mobile Gateway address : 9.0.0.31  
Time left (s) : 3529  
-----  
APN > NAPTR > SRV > A
```

```

-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a1.
    3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.37
Time left (s) : 3529
-----
APN > NAPTR > SRV
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.
    3gppnetwork.org
Priority : 20
Index : 2
-----
Weight : 20
Port : 2123
Target : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
    3gppnetwork.org
Time left (s) : 3529
-----
APN > NAPTR > SRV > A
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
    3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.26
Time left (s) : 3529
-----
APN > NAPTR > SRV > A
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
    3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.32
Time left (s) : 3529
-----
APN > NAPTR > SRV > A
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv2.a2.
    3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.38
Time left (s) : 3529
-----
APN > NAPTR
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.
    3gppnetwork.org
Order : 30
Index : 3
-----
Preference : 30
Service : x-3gpp-pgw:x-s2b-gtp
Next lookup : dns-srv
Replacement : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.
    3gppnetwork.org
Time left (s) : 3529
-----
APN > NAPTR > SRV
-----

```

Show Commands

```
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.
    3gppnetwork.org
Priority : 10
Index : 1
-----
Weight : 10
Port : 2123
Target : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.
    3gppnetwork.org
Time left (s) : 3529
-----
APN > NAPTR > SRV > A
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.
    3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.27
Time left (s) : 3529
-----
APN > NAPTR > SRV > A
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.
    3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.33
Time left (s) : 3529
-----
APN > NAPTR > SRV > A
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a1.
    3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.39
Time left (s) : 3529
-----
APN > NAPTR > SRV
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.
    3gppnetwork.org
Priority : 20
Index : 2
-----
Weight : 20
Port : 2123
Target : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.
    3gppnetwork.org
Time left (s) : 3529
-----
APN > NAPTR > SRV > A
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.
    3gppnetwork.org
-----
Mobile Gateway address : 9.0.0.28
Time left (s) : 3529
-----
APN > NAPTR > SRV > A
-----
APN : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.
    3gppnetwork.org
-----
```

```

Mobile Gateway address      : 9.0.0.34
Time left (s)              : 3528
-----
APN > NAPTR > SRV > A
-----
APN                        : full.dotted.apn.apn.epc.mnc010.mcc206.srv3.a2.
                           3gppnetwork.org
-----
Mobile Gateway address      : 9.0.0.40
Time left (s)              : 3528
-----
No. of cache entries: 18

```

mgw-map

Syntax	mgw-map
Context	show>router>wlan-gw
Description	This command displays the Mobile Gateway map.

Sample Output

```

*A:Dut-C# show router 300 wlan-gw mgw-map
=====
Mobile Gateway map
=====
Address prefix                Profile
-----
9.0.0.29/32                   Ivo
-----
No. of address prefixes: 1

```

mobile-gateway

Syntax	mobile-gateway [mgw-profile <i>profile-name</i>] [local-address <i>ip-address</i>] [control protocol] [interface-type <i>interface-type</i>] mobile-gateway remote-address <i>ip-address</i> [udp-port <i>port</i>] mobile-gateway remote-address <i>ip-address</i> [udp-port <i>port</i>] statistics
Context	show>router>wlan-gw
Description	This command displays Mobile Gateway information.
Parameters	mgw-profile <i>profile-name</i> — Specifies the name that identifies the profile. local-address <i>ip-address</i> —
Values	ip-address: ipv4-address - a.b.c.d ipv6-address : x:x:x:x:x:x:x (eight 16-bit pieces) x:x:x:x:x:d.d.d.d

x - [0..FFFF]H
d - [0..255]D

control protocol — Specifies the control plane protocol used for the connection with this Mobile Gateway.

Values gtpv1-c, gtpv2-c

interface-type interface-type — Specifies the interface type of the connection between WLAN Gateway and Mobile Gateway.

Values gn — Gn interface
s2a — S2a interface
s2b — S2b interface

remote-address ip-address —

Values ip-address: ipv4-address - a.b.c.d
ipv6-address : x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:d.d.d.d
x - [0..FFFF]H
d - [0..255]D

udp-port port — Specifies the UDP port.

Values 1 — 65535

statistics — Displays statistics information about the Mobile Gateways connected to this system.

Sample Output

```
*A:Dut-C# show router 300 wlan-gw mobile-gateway mgw-profile "Ivo"
=====
Mobile gateways
=====
Remote address          : 9.0.0.29
UDP port                : 2123
-----
State                   : up
Local address           : 5.1.45.3
Profile                 : Ivo
Control protocol        : gtpv1-c
Interface type          : gn
Restart count           : 1
Time                    : 2014/03/24 15:38:53
-----
No. of Mobile gateways: 1
```

```
*A:Dut-C# show router 300 wlan-gw mobile-gateway local-address 5.1.45.3
=====
Mobile gateways
=====
Remote address          : 9.0.0.29
UDP port                : 2123
-----
State                   : up
Local address           : 5.1.45.3
Profile                 : Ivo
Control protocol        : gtpv1-c
```



```
Interface type      : gn
Restart count      : 1
Time               : 2014/03/24 15:38:53
```

 No. of Mobile gateways: 1

```
*A:Dut-C# show router 300 wlan-gw mobile-gateway control gtpv1-c
```

```
=====
Mobile gateways
=====
```

```
Remote address      : 9.0.0.29
UDP port           : 2123
```

```
-----
State              : up
Local address      : 5.1.45.3
Profile           : Ivo
Control protocol   : gtpv1-c
Interface type     : gn
Restart count     : 1
Time              : 2014/03/24 15:38:53
```

 No. of Mobile gateways: 1

```
*A:Dut-C# show router 300 wlan-gw mobile-gateway interface-type gn
```

```
=====
Mobile gateways
=====
```

```
Remote address      : 9.0.0.29
UDP port           : 2123
```

```
-----
State              : up
Local address      : 5.1.45.3
Profile           : Ivo
Control protocol   : gtpv1-c
Interface type     : gn
Restart count     : 1
Time              : 2014/03/24 15:38:53
```

 No. of Mobile gateways: 1

```
*A:Dut-C# show router 300 wlan-gw mobile-gateway remote-address 9.0.0.29
```

```
=====
Mobile gateway
=====
```

```
Remote address      : 9.0.0.29
UDP port           : 2123
```

```
-----
State              : up
Local address      : 5.1.45.3
Profile           : Ivo
Control protocol   : gtpv1-c
Interface type     : gn
```

Show Commands

```
Restart count      : 1
Time               : 2014/03/24 15:38:53
```

```
*A:Dut-C# show router 300 wlan-gw mobile-gateway remote-address 9.0.0.29 udp-port 2123
```

```
=====
Mobile gateway
=====
```

```
Remote address    : 9.0.0.29
UDP port          : 2123
-----
```

```
State              : up
Local address      : 5.1.45.3
Profile            : Ivo
Control protocol   : gtpv1-c
Interface type     : gn
Restart count      : 1
Time               : 2014/03/24 15:38:53
```

```
*A:Dut-C# show router 300 wlan-gw mobile-gateway remote-address 9.0.0.29 udp-port 2123 statistics
```

```
=====
Mobile gateway statistics
=====
```

```
tx echo requests      : 4
tx echo responses     : 0
rx echo requests      : 0
rx echo responses     : 4
rx version not supported : 0
rx malformed pkts     : 0
rx unknown pkts      : 0
rx missing IE pkts    : 0
peer restarts         : 0
peer restart counter  : 1
path mgmt failures    : 0
create PDP requests   : 1
create PDP responses  : 1
delete PDP requests   : 0
delete PDP responses  : 0
modify PDP requests   : 0
modify PDP responses  : 0
```

soft-gre-tunnel-qos

- Syntax** **soft-gre-tunnel-qos [detail]**
 soft-gre-tunnel-qos remote-ip *ip-address* [local-ip *ip-address*] [detail]
- Context** show>router>wlan-gw
- Description** This command displays soft-GRE tunnel-QoS resource information.

Parameters **remote-address** *ip-address* — Specifies the IP address of the Mobile Gateway, that is the source IP address in the tunnel header of received packets.

Values
 ip-address: ipv4-address - a.b.c.d
 ipv6-address : x:x:x:x:x:x:x (eight 16-bit pieces)
 x:x:x:x:x:d.d.d.d
 x - [0..FFFF]H
 d - [0..255]D

local-address *ip-address* — Specifies the IP address of this system, that is the destination IP address in the tunnel header of received packets.

Values
 ip-address: ipv4-address - a.b.c.d
 ipv6-address : x:x:x:x:x:x:x (eight 16-bit pieces)
 x:x:x:x:x:d.d.d.d
 x - [0..FFFF]H
 d - [0..255]D

detail — Displays detailed information.

Sample Output

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos
=====
Soft GRE tunnel QoS
=====
Remote IP address      : 201.0.0.2
Local IP address      : 50.1.1.1
Operational state     : active
Number of UE         : 1
Remaining hold time (s) : N/A

*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos detail
=====
Soft GRE tunnel QoS
=====
Remote IP address      : 201.0.0.2
Local IP address      : 50.1.1.1
Operational state     : active
Number of UE         : 1
Remaining hold time (s) : N/A
Service Access Points(SAP)
=====
Service Id           : 2147483650
SAP                  : 5/1/lo-gre:1           Encap           : q-tag
Description          : Internal SAP
Admin State          : Up                   Oper State      : Up
Flags                : None
Multi Svc Site       : None
Last Status Change   : 03/24/2014 15:03:48
Last Mgmt Change     : 03/24/2014 15:14:00

-----
Encap Group Specifics
-----
Encap Group Name     : _tmnx_SHAPER_GR000      Group Type      : ISID
Qos-per-member       : TRUE
```

Show Commands

```
Members          :  
1
```

```
-----  
QoS  
-----
```

```
E. qos-policy      : 1                Q Frame-Based Acct: Disabled  
E. Sched Policy    :                  E. Agg-limit       : -1  
                                      Limit Unused BW    : Disabled  
-----
```

```
Encap Group Member 1 Base Statistics  
-----
```

```
Last Cleared Time : N/A
```

```
Forwarding Engine Stats
```

	Packets	Octets
For. InProf	: 0	0
For. OutProf	: 0	0
Dro. InProf	: 0	0
Dro. OutProf	: 0	0

```
-----  
Encap Group Member 1 Queue Statistics  
-----
```

	Packets	Octets
Egress Queue 1		
For. InProf	: 0	0
For. OutProf	: 0	0
Dro. InProf	: 0	0
Dro. OutProf	: 0	0

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos remote-ip 201.0.0.2  
=====
```

```
Soft GRE tunnel QoS  
=====
```

```
Remote IP address      : 201.0.0.2  
Local IP address       : 50.1.1.1  
Operational state      : active  
Number of UE           : 1  
Remaining hold time (s) : N/A
```

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos remote-ip 201.0.0.2 local-ip  
50.1.1.1  
=====
```

```
Soft GRE tunnel QoS  
=====
```

```
Remote IP address      : 201.0.0.2  
Local IP address       : 50.1.1.1  
Operational state      : active  
Number of UE           : 1  
Remaining hold time (s) : N/A
```

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnel-qos remote-ip 201.0.0.2 local-ip  
50.1.1.1 detail  
=====
```

```

Soft GRE tunnel QoS
=====
Remote IP address      : 201.0.0.2
Local IP address      : 50.1.1.1
Operational state     : active
Number of UE          : 1
Remaining hold time (s) : N/A
Service Access Points (SAP)
=====
Service Id            : 2147483650
SAP                   : 5/1/lo-gre:1          Encap           : q-tag
Description           : Internal SAP
Admin State           : Up                   Oper State      : Up
Flags                 : None
Multi Svc Site        : None
Last Status Change    : 03/24/2014 15:03:48
Last Mgmt Change      : 03/24/2014 15:14:00

-----
Encap Group Specifics
-----
Encap Group Name      : _tmnx_SHAPER_GR000    Group Type       : ISID
Qos-per-member        : TRUE
Members               :
1

-----
QOS
-----
E. qos-policy         : 1                   Q Frame-Based Acct: Disabled
E. Sched Policy       :                     E. Agg-limit     : -1
Limit Unused BW       : Disabled

-----
Encap Group Member 1 Base Statistics
-----
Last Cleared Time     : N/A

Forwarding Engine Stats
      Packets                Octets

For. InProf           : 0                0
For. OutProf          : 0                0
Dro. InProf           : 0                0
Dro. OutProf          : 0                0

-----
Encap Group Member 1 Queue Statistics
-----
      Packets                Octets

Egress Queue 1
For. InProf           : 0                0
For. OutProf          : 0                0
Dro. InProf           : 0                0
Dro. OutProf          : 0                0

```

soft-gre-tunnels

Syntax **soft-gre-tunnels local-ip** *ip-address* **remote-ip** *ip-address* **ue**
soft-gre-tunnels [**local-ip** *ip-address*] [**remote-ip** *ip-address*] [**isa-group** *wlan-gw-group-id*]
[member [1..255]] [**summary**] [**detail**]

Context show>router>wlan-gw

Description This command displays soft-GRE tunnel-QoS resource information.

Parameters **remote-address** *ip-address* — Specifies the IP address of the Mobile Gateway, that is the source IP address in the tunnel header of received packets.

Values ip-address: ipv4-address - a.b.c.d
 ipv6-address : x:x:x:x:x:x:x (eight 16-bit pieces)
 x:x:x:x:x:d.d.d.d
 x - [0..FFFF]H
 d - [0..255]D

local-address *ip-address* — Specifies the IP address of this system, that is the destination IP address in the tunnel header of received packets.

Values ip-address: ipv4-address - a.b.c.d
 ipv6-address : x:x:x:x:x:x:x (eight 16-bit pieces)
 x:x:x:x:x:d.d.d.d
 x - [0..FFFF]H
 d - [0..255]D

ue — Displays information for the specified user equipment.

isa-group *wlan-gw-group-id* — Specifies the identifier of the WLAN Gateway ISA group that terminates GRE for this group interface.

Values 1 — 4

member [1..255] — Specifies the identifier of this WLAN Gateway ISA Group member.

summary — Displays a summary of the specified parameters.

detail — Displays detailed information.

Sample Output

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnels
=====
Soft GRE tunnels
=====
Remote IP address      : 201.0.0.2
Local IP address      : 50.1.1.1
ISA group ID          : 1
ISA group member ID   : 5
Time established      : 2014/03/24 15:38:52
Number of UE          : 1
Access Point MAC      : 00:00:00:00:00:01
AP MAC learn failed   : false

Tunnel QoS
-----
```

```
Operational state      : active
Number of UE          : 1
Remaining hold time (s) : N/A
```

```
-----
No. of tunnels: 1
```

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnels local-ip 50.1.1.1
```

```
=====
Soft GRE tunnels
```

```
=====
Remote IP address      : 201.0.0.2
Local IP address       : 50.1.1.1
ISA group ID           : 1
ISA group member ID    : 5
Time established       : 2014/03/24 15:38:52
Number of UE           : 1
Access Point MAC       : 00:00:00:00:00:01
AP MAC learn failed    : false
```

```
Tunnel QoS
```

```
-----
Operational state      : active
Number of UE          : 1
Remaining hold time (s) : N/A
```

```
-----
No. of tunnels: 1
```

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnels local-ip 50.1.1.1 remote-ip
201.0.0.2
```

```
=====
Soft GRE tunnels
```

```
=====
Remote IP address      : 201.0.0.2
Local IP address       : 50.1.1.1
ISA group ID           : 1
ISA group member ID    : 5
Time established       : 2014/03/24 15:38:52
Number of UE           : 1
Access Point MAC       : 00:00:00:00:00:01
AP MAC learn failed    : false
```

```
Tunnel QoS
```

```
-----
Operational state      : active
Number of UE          : 1
Remaining hold time (s) : N/A
```

```
-----
No. of tunnels: 1
```

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnels local-ip 50.1.1.1 remote-ip
201.0.0.2 ue
```

```
=====
Tunnel User Equipments
```

```
=====
MAC address            : 00:02:00:00:00:01
```

Show Commands

```
-----  
VLAN Q-tag           : 1  
MPLS label          : (Not Specified)  
Tunnel router       : 50  
Tunnel remote IP address : 201.0.0.2  
Tunnel local IP address  : 50.1.1.1  
Retail service      : N/A  
SSID                : "1"  
Previous Access Point IP : (Not Specified)  
IMSI                : 206100000000001  
MGW router          : 300  
Mobile Gateway      : 9.0.0.29  
APN                 : full.dotted.apn.mnc010.mcc206.gprs  
Last move time      : 2014/03/24 15:38:52  
-----
```

No. of UE: 1

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnels local-ip 50.1.1.1 remote-ip  
201.0.0.2 isa-group 1
```

```
=====
```

```
Soft GRE tunnels  
=====
```

Remote IP address	: 201.0.0.2
Local IP address	: 50.1.1.1
ISA group ID	: 1
ISA group member ID	: 5
Time established	: 2014/03/24 15:38:52
Number of UE	: 1
Access Point MAC	: 00:00:00:00:00:01
AP MAC learn failed	: false

Tunnel QoS

```
-----  
Operational state      : active  
Number of UE           : 1  
Remaining hold time (s) : N/A
```

```
-----  
No. of tunnels: 1
```

```
*A:Dut-C# show router 50 wlan-gw soft-gre-tunnels local-ip 50.1.1.1 remote-ip  
201.0.0.2 isa-group 1 member 5
```

```
=====
```

```
Soft GRE tunnels  
=====
```

Remote IP address	: 201.0.0.2
Local IP address	: 50.1.1.1
ISA group ID	: 1
ISA group member ID	: 5
Time established	: 2014/03/24 15:38:52
Number of UE	: 1
Access Point MAC	: 00:00:00:00:00:01
AP MAC learn failed	: false

Tunnel QoS

```
-----  
Operational state      : active  
Number of UE           : 1  
Remaining hold time (s) : N/A
```

 No. of tunnels: 1

*A:Dut-C# show router 50 wlan-gw soft-gre-tunnels local-ip 50.1.1.1 remote-ip 201.0.0.2 isa-group 1 member 5 summary

=====

Soft GRE tunnels summary

=====

Remote IP address - Local IP address

201.0.0.2 - 50.1.1.1

No. of tunnels: 1

*A:Dut-C# show router 50 wlan-gw soft-gre-tunnels local-ip 50.1.1.1 remote-ip 201.0.0.2 isa-group 1 member 5 detail

=====

Soft GRE tunnels

=====

Remote IP address : 201.0.0.2
 Local IP address : 50.1.1.1
 ISA group ID : 1
 ISA group member ID : 5
 Time established : 2014/03/24 15:38:52
 Number of UE : 1
 Access Point MAC : 00:00:00:00:00:01
 AP MAC learn failed : false

Tunnel QoS

Operational state : active
 Number of UE : 1
 Remaining hold time (s) : N/A
 Service Access Points(SAP)

=====

Service Id : 2147483650
 SAP : 5/1/lo-gre:1 Encap : q-tag
 Description : Internal SAP
 Admin State : Up Oper State : Up
 Flags : None
 Multi Svc Site : None
 Last Status Change : 03/24/2014 15:03:48
 Last Mgmt Change : 03/24/2014 15:14:00

Encap Group Specifics

Encap Group Name : _tmnx_SHAPER_GR000 Group Type : ISID
 Qos-per-member : TRUE
 Members :
 1

QOS

E. qos-policy : 1 Q Frame-Based Acct: Disabled
 E. Sched Policy : E. Agg-limit : -1
 Limit Unused BW : Disabled

Encap Group Member 1 Base Statistics

Show Commands

```
-----  
Last Cleared Time      : N/A  
  
Forwarding Engine Stats  
                        Packets          Octets  
  
For. InProf           : 0              0  
For. OutProf          : 0              0  
Dro. InProf           : 0              0  
Dro. OutProf          : 0              0  
-----  
Encap Group Member 1 Queue Statistics  
-----  
Packets              Octets  
  
Egress Queue 1  
For. InProf           : 0              0  
For. OutProf          : 0              0  
Dro. InProf           : 0              0  
Dro. OutProf          : 0              0  
=====
```

```
No. of tunnels: 1
```

tunnels

Syntax **tunnels** [**local-ip** *ip-address*] [**remote-ip** *ip-address*] [**isa-group** *wlan-gw-group-id*] [**member** [1..255]] [**summary**] [**detail**]
tunnels local-ip *ip-address* **remote-ip** *ip-address* **ue**

Context show>router>wlan-gw

Description This command displays tunnel operation information.

Parameters **local-address** *ip-address* — Specifies the IP address of this system, that is the destination IP address in the tunnel header of received packets.

Values ip-address: ipv4-address - a.b.c.d
ipv6-address : x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:d.d.d.d
x - [0..FFFF]H
d - [0..255]D

remote-address *ip-address* — Specifies the IP address of the Mobile Gateway, that is the source IP address in the tunnel header of received packets.

Values ip-address: ipv4-address - a.b.c.d
ipv6-address : x:x:x:x:x:x:x (eight 16-bit pieces)
x:x:x:x:x:d.d.d.d
x - [0..FFFF]H
d - [0..255]D

isa-group *wlan-gw-group-id* — Specifies the identifier of the WLAN Gateway ISA group that terminates GRE for this group interface.

Values 1 — 4

member [1..255] — Specifies the identifier of this WLAN Gateway ISA Group member.

summary — Displays a summary of the specified parameters.

detail — Displays detailed information.

ue — Displays information for the specified user equipment.

Sample Output

Note that the remote/local IP addresses are locally generated for VLAN tunnels.

```
show router 50 wlan-gw tunnels
=====
Access Point tunnels
=====
Remote IP address      : fe80::3e8f:ffff:fe00:1901
Local IP address      : fe80::ff:fe02:202
ISA group ID          : 1
ISA group member ID   : 4
Time established       : 2015/01/07 17:42:01
Number of UE          : 1
Access Point MAC      : 00:00:00:00:00:05
AP MAC learn failed   : false
Encapsulation       : vlan
VLAN tag 1            : 1000
VLAN tag 2            : (None)
=====
No. of tunnels: 1
=====
```

radius-server-policy

- Syntax** **radius-server-policy** *policy-name* [**acct-on-off**]
radius-server-policy *policy-name* **associations**
radius-server-policy *policy-name* **msg-buffer-stats**
radius-server-policy *policy-name* **statistics**
radius-server-policy [**acct-on-off**]
- Context** show>aaa
- Description** This command displays RADIUS server policy information.
- Parameters** *policy-name* — Displays information pertaining to the specified policy name.
- associations** — Displays the association between the RADIUS server policy and the applications referencing the policy (RADIUS proxy, route downloader, authentication policy, accounting policy, dynamic services policy).
- statistics** — Displays statistics of the RADIUS server policy and RADIUS servers referenced in the policy.
- acct-on-off** — Displays the acct-on-off operational state for the RADIUS server policy.
- msg-buffer-stats** — — Displays statistics for the RADIUS message buffering.

Sample Output

```
show aaa radius-server-policy "aaa-server-policy-1"
=====
RADIUS server policy "aaa-server-policy-1"
=====
Description                : Radius AAA server policy
Acct Request script policy  : (Not Specified)
Auth Request script policy  : (Not Specified)
Accept script policy        : script-policy-1
Acct-On-Off                 : Enabled (state Not Blocked)
-----
RADIUS server settings
-----
Router                      : "Base"
Source address              : (Not Specified)
Access algorithm             : direct
Retry                       : 3
Timeout (s)                 : 5
Hold down time (s)         : 30
Last management change      : 02/20/2013 13:32:05
=====
Servers for "aaa-server-policy-1"
=====
Idx Name                    Address          Port           Oper State
                               Auth/Acct
-----
1  server-1                  172.16.1.1     1812/1813     in-service
=====
```

```
# show aaa radius-server-policy acct-on-off
=====
RADIUS server policies AcctOnOff state
=====
Name                               OperState      LastStateChange
-----
aaa-server-policy-1                on             02/20/2013 21:23:57
aaa-server-policy-2                NotApplicable NotApplicable
aaa-server-policy-3                sendAcctOn    NotApplicable
aaa-server-policy-4                off           02/20/2013 21:40:57
-----
No. of policies: 4
=====
```

```
# show aaa radius-server-policy "aaa-server-policy-1" acct-on-off
=====
RADIUS server policy "aaa-server-policy-1" AcctOnOff info
=====
Oper state           : on
Session Id          : 242FFF0000000451253EED
Last state change   : 02/20/2013 21:23:57
Trigger             : startUp
Server              : "server-1"
=====
```

```
show aaa radius-server-policy "aaa-server-policy-3" msg-buffer-stats
=====
RADIUS server policy "aaa-server-policy-3" message buffering stats
=====
buffering acct-interim      : enabled
  min interval (s)         : 60
  max interval (s)         : 3600
  lifetime (hrs)           : 12
buffering acct-stop         : enabled
  min interval (s)         : 60
  max interval (s)         : 3600
  lifetime (hrs)           : 12

Statistics
-----
Total acct-stop messages in buffer      : 6
Total acct-interim messages in buffer   : 10
Total acct-stop messages dropped (lifetime expired) : 0
Total acct-interim messages dropped (lifetime expired) : 0
Last buffer clear time                  : N/A
Last buffer statistics clear time       : N/A
=====
```

```
show aaa radius-server-policy "aaa-server-policy-1" statistics
=====
RADIUS server policy "aaa-server-policy-1" statistics
=====
Tx transaction requests      : 383
Rx transaction responses     : 383
Transaction requests timed out : 0
Transaction requests send failed : 0
Packet retries               : 0
Transaction requests send rejected : 0
```

Show Commands

```
Authentication requests failed           : 0
Accounting requests failed              : 0
Ratio of access-reject over auth responses : 0%
Transaction success ratio                : 100%
Transaction failure ratio                : 0%
Statistics last reset at                  : n/a

Server 1 "server-1" address 172.16.1.1 auth-port 1812 acct-port 1813
-----
Tx request packets                       : 383
Rx response packets                       : 383
Request packets timed out                 : 0
Request packets send failed               : 0
Request packets send failed (overload)    : 0
Request packets waiting for reply         : 0
Response packets with invalid authenticator : 0
Response packets with invalid msg authenticator : 0
Authentication packets failed             : 0
Accounting packets failed                 : 0
Avg auth response delay (10 100 1K 10K) in ms : 27.1 22.8 22.8 22.8
Avg acct response delay (10 100 1K 10K) in ms : 6.24 12.5 11.5 11.5
Statistics last reset at                  : n/a

=====

show aaa radius-server-policy "myRadiusServerPolicy1" associations
=====
RADIUS Proxy Associations
=====
Router RADIUS Proxy Server Purpose Username
-----
Base myProxyServerBase acc (default)
vprn10 myProxyServer1 acc (default)
-----
No. of associations: 2

show aaa radius-server-policy "aaa-server-policy-1" associations
=====
RADIUS Proxy Associations
=====
Router RADIUS Proxy Server Purpose Username
-----
Base myProxyServerBase acc (default)
-----
No. of associations: 1
=====
No route downloader entries found.
=====
Authentication Policy Associations
=====
Authentication Policy
-----
auth-policy-1
-----
No. of associations: 1
=====
Accounting Policy Associations
=====
```

```

Accounting Policy
-----
acct-policy-1
acct-policy-2
-----
No. of associations: 2
=====
No dynamic-services policy entries found.

```

wlan-gw-group

- Syntax** **wlan-gw-group** *wlan-gw-group-id*
wlan-gw-group *wlan-gw-group-id* **associations**
wlan-gw-group *wlan-gw-group-id* **member** [1..255] [**statistics**]
wlan-gw-group
- Context** show>isa
- Description** This command displays WLAN-GW group information including wlan-gw tunnels.
- Parameters** *wlan-gw-group-id* — Displays information about the specified wlan-gw-group-id.
associations — Displays information about association for the specified wlan-gw-group-id.
member [1..255] — Displays information about the WLAN-GW-specific status and basic statistics information about the specified member.
statistics — Displays statistics information about the members of the specified WLAN-GW group.

Sample Output

```

system# show isa wlan-gw-group 1
=====
WLAN Gateway group 1
=====
test
Administrative state      : in-service
Operational state        : in-service
Active IOM limit         : 2
Port policy               : myPortPol
Last Mgmt Change         : 02/17/2012 14:54:27
-----
NAT specific information for ISA group 1
-----
Reserved sessions        : 10
High Watermark (%)       : 20
Low Watermark (%)        : 10
Accounting policy         : natAccPol
Last Mgmt Change         : 02/17/2012 15:01:31
-----
=====
ISA Group 1 members
=====
Group  Member      State      Mda      Addresses  Blocks  Se-%  Hi  Se-
Prio
-----

```

Show Commands

```

-----
      1          1          active      3/1          0
0      < 1      N          10          active      3/2          0          0
1      2
< 1    N          10
1      3          active      4/1          0          0
< 1    N          10
1      4          active      4/2          0          0
< 1    N          10
-----
-----
No. of members: 4
=====
System# show isa wlan-gw-group 1 member 2
=====
ISA WLAN Gateway Group 1 Member 2
=====
MDA                                     : 3/2
Number of wlan-gw tunnels                : 0
Number of UE                             : 0
Number of activated Egress Encapsulation Group members : 0
Number of pending Egress Encapsulation Group members : 0
Number of tunnel QoS problems            : 0
=====

```

gtp-session

- Syntax** **gtp-session imsi** *imsi* **apn** *apn-string* | **gtp-session** [**mgw-address** *ip-address*] [**mgw-router** *router-instance*] [**remote-control-teid** *teid*] [**local-control-teid** *teid*] [**detail**]
gtp-session imsi *imsi*
gtp-statistics
- Context** show>subscr-mgmt>wlan-gw
- Description** This command displays GTP session information.
- Parameters** **imsi** *imsi* — Specifies the IMSI (International Mobile Subscriber Identity) of this UE.
apn *apn-string* — Specifies the APN (Access Point Name).
mgw-address *ip-address* — Specifies the IP address of the Mobile Gateway, \that is the source IP address in the tunnel header of received packets.
mgw-router *router-instance* — Specifies the identifier of the virtual router instance where the GTP tunnel is terminated.
remote-control-teid *teid* — Specifies the remote control plane Tunnel Endpoint Identifier (TEID).
local-control-teid *teid* — Specifies the local control plane Tunnel Endpoint Identifier (TEID).
detail — Displays detailed information.

Sample Output

```

*A:Dut-C# show subscriber-mgmt wlan-gw gtp-session
=====

```



```

GTP sessions
=====
IMSI                : 206100000000001
APN                 : full.dotted.apn.mnc010.mcc206.gprs
-----
Mobile Gateway router : 300
Mobile Gateway address : 9.0.0.29
Remote control TEID   : 5678
Local control TEID    : 4289724672
Charging characteristics : (None)
-----
No. of GTP sessions: 1

```

gtp-statistics

Syntax **gtp-statistics**

Context show>subscr-mgmt>wlan-gw

Description This command displays GTP statistics.

mgw-profile

Syntax **mgw-profile** *profile-name*
mgw-profile *profile-name associations*
mgw-profile

Context show>subscr-mgmt>wlan-gw

Description This command displays Mobile Gateway profile information.

ssid

Syntax **ssid**

Context show>subscr-mgmt>wlan-gw

Description This command displays SSID information.

statistics

Syntax **statistics**

Context show>subscr-mgmt>wlan-gw

Description This command displays statistics information.

ue

- Syntax** `ue [vlan qtag] [mpls-label label] [retail-svc-id service-id] [ssid service-set-id] [previous-access-point ip-address]
ue mac ieee-address`
- Context** `show>subscr-mgmt>wlan-gw`
- Description** This command displays user equipment information.
- Parameters**
- vlan *qtag*** — Displays information about the VLAN Q-tag present in the traffic received from this UE.
Values 1 — 4095
 - mpls-label *label*** — Displays information about the MPLS label present in the traffic received from this UE.
 - retail-svc-id *service-id*** — Displays information about the identifier of the specified retail service.
 - ssid *service-set-id*** — Displays information about the Service Set ID (SSID) of this UE.
 - previous-access-point *ip-address*** — Displays information about the IP address of the previous Access Point (AP) of this UE.
 - mac *ieee-address*** — Displays information about the MAC address of this UE.
Values xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx

Sample Output

```
System# show subscriber-mgmt wlan-gw ue
=====
User Equipments
=====
MAC address                : 00:02:00:00:00:39
-----
VLAN Q-tag                 : 1
MPLS label                 : (Not Specified)
Tunnel router              : 50
Tunnel remote IP address   : 20C9::7:1:2
Tunnel local IP address    : 2032::1:1:7
Retail service             : N/A
SSID                      : 1
Previous Access Point IP   : (Not Specified)
IMSI                      : (Not Specified)
Last move time             : 2013/07/02 07:45:31
-----
No. of UE: 1
=====
System#
```

Tools Commands

acct-on

Syntax `acct-on [radius-server-policy policy-name] [force]`

Context `tools>perform>aaa`

Description This command triggers a RADIUS Accounting-On message:

- for all radius-server-policies that have acct-on-off configured.
- for the specified radius-server-policy if the acct-on-off is configured

The Accounting-On message is not sent when the last successful event for the radius server policy was an Accounting-On message. In this case, an Accounting-Off should be sent first. By specifying the keyword “force”, this is overruled.

Parameters `radius-server-policy policy-name` — Specifies the radius-server-policy for which the Accounting-On should be sent.

`force` — Sends an Accounting-On also if the last successful event was an Accounting-On.

acct-off

Syntax `acct-off [radius-server-policy policy-name] [force] [acct-terminate-cause number]`

Context `tools>perform>aaa`

Description This command triggers a RADIUS Accounting-Off message:

- for all radius-server-policies that have acct-on-off configured.
- for the specified radius-server-policy if the acct-on-off is configured

The Accounting-Off message is not sent when the last successful event for the radius server policy was an Accounting-Off message. In this case, an Accounting-On should be sent first. By specifying the keyword “force”, this is overruled.

Parameters `radius-server-policy policy-name` — Specifies the radius-server-policy for which the Accounting-Off should be sent.

`force` — Sends an Accounting-On also if the last successful event was an Accounting-Off.

`acct-terminate-cause number` — Overrides the default Acct-Terminate-Cause (User-Request) in the Accounting-Off message.

radius-server-policy

Syntax `radius-server-policy policy-name msg-buffer [session-id acct-session-id]`

Context `tools>perform>aaa`

Description This command dumps the RADIUS message buffer content for the specified radius-server-policy:

- message-type (acct-interim or acct-stop)
- Acct-Session-Id
- Remaining lifetime

When specifying the session-id, the message details are displayed.

Parameters *policy-name* — Specifies the radius-server-policy for which the message buffer content should be displayed.

session-id *acct-session-id* — Display the RADIUS message details for the message with specified session-id that is stored in the RADIUS message buffer.

ue

Syntax **ue**

Context tools>dump>wlan-gw

Description This command dumps user equipment (UE) information.

Sample Output

```
tools dump wlan-gw ue
=====
Matched 1 session on Slot #4 MDA #1
=====
UE-Mac           : 00:02:00:00:00:11   UE-vlan         : 3600
UE IP Addr       : N/A           UE timeout      : N/A
UE IP6 Addr      : N/A
Description      : L2-user
Auth/CoA-time    : 01/07/2015 18:56:01
Tunnel MDA       : 5/1           Tunnel Router   : 50
MPLS label       : N/A           Shaper          : Default
Tunnel Src IP    : 201.0.0.2      Tunnel Dst IP   : 50.1.1.1
Tunnel Type      : GRE
Anchor SAP       : 4/1/nat-out-ip:2049.6
AP-Mac           : Unknown       AP-RSSI         : Unknown
AP-SSID          : Unknown
Last-forward     : 01/07/2015 18:56:01  Last-move      : None
Session Timeout  : None           Idle Timeout    : 300 sec
Acct Update      : None           Acct Interval   : N/A
Acct Session-Id  : N/A
Acct Policy      : N/A
NAT Policy       : N/A
Redirect Policy  : N/A
IP Filter        : N/A
App-profile      : N/A
Rx Oper PIR      : N/A           Rx Oper CIR     : N/A
Tx Oper PIR      : N/A           Tx Oper CIR     : N/A
Rx Frames        : 0             Rx Octets       : 0
Tx Frames        : 0             Tx Octets       : 0
=====
No sessions on Slot #4 MDA #2 match the query
```

No sessions on Slot #5 MDA #1 match the query
No sessions on Slot #5 MDA #2 match the query

Clear Commands

radius-server-policy

Syntax **radius-server-policy** *policy-name* **msg-buffer** [**acct-session-id** *acct-session-id*]
radius-server-policy *policy-name* **statistics** [**msg-buffer-only**]
radius-server-policy *policy-name* **server** *server-index* **statistics**

Context clear>aaa

Description This command dumps the RADIUS message buffer content for the specified radius-server-policy:

- message-type (acct-interim or acct-stop)
- Acct-Session-Id
- Remaining lifetime

When specifying the session-id, the message details are displayed.

Parameters *policy-name* — Specifies the radius-server-policy for which the information should be cleared.

msg-buffer [**acct-session-id** *acct-session-id*] — Deletes all RADIUS messages or the RADIUS message with specified session-id from the RADIUS message buffer.

statistics [**msg-buffer-only**] — Clears all statistics for the specified radius-server-policy: radius-server-policy statistics, RADIUS server statistics and RADIUS message buffer statistics. With the optional keyword “msg-buffer-only”, only the RADIUS message buffer statistics are cleared.

server *server-index* **statistics** — Clears the RADIUS server statistics for the specified server-index in the specified radius-server-policy.

isa-subnets

Syntax **isa-subnets all**
isa-subnets interface *ip-int-name*
isa-subnets prefix *ipv6-address/prefix-length*

Context clear>router>wlan-gw

Description This command clears specific subnets from the pool-manager. Associated UE's will be removed from the system.

When clearing the last subnet on an ISA the pool-manager will automatically allocate a new subnet with allocation-level 0%.

Parameters **all** — Clears all the isa-subnets.

interface *ip-int-name* — Clears all the isa-subnets of a specific subscriber-interface.

ipv6-address/prefix-length — Clears a specific IPv6 address and prefix length.