
Subscriber Management Command Reference

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Note: Enhanced Subscriber Management is supported on the redundant chassis model only.

Subscriber management commands are also described in the [Triple Play Services Command Reference on page 69](#) section.

ANCP Commands

```

config
  — subscriber-mgmt
    — ancp
      — ancp-policy name
        — egress
          — rate-adjustment adjusted-percent
          — no rate-adjustment
          — rate-modify agg-rate-limit
          — rate-modify {scheduler scheduler-name | arbiter arbiter-name}
          — no rate-modify
          — rate-monitor kilobit-per-second [alarm]
          — no rate-monitor
          — rate-reduction kilobit-per-second
          — no rate-reduction
        — ingress
          — rate-adjustment adjusted-percent
          — rate-modify {scheduler scheduler-name | arbiter arbiter-name}
          — rate-monitor kilobit-per-second [alarm] [log]
          — rate-reduction kilobit-per-second
        — [no] port-down
          — [no] disable-shcv [alarm] [hold-time seconds]
      — ancp-static-map
        — entry key ancp-string customer customer-id multi-service-site customer-site-name ancp-policy policy-name
        — entry key ancp-string sap sap-id ancp-policy policy-name
        — no entry key ancp-string customer customer-id multi-service-site customer-site-name
        — no entry key ancp-string sap sap-id

```

GSMP Configuration Commands

```

config
  — service
    — vpls service-id [customer customer-id] [create] [vpn vpn-id] [m-vpls] [b-vpls|i-vpls]
    — no vpls service-id
    — [no] vpn service-id [customer customer-id] [vpn vpn-id] [m-vpls]
      — gsmp
        — [no] group name
          — ancp
            — [no] dynamic-topology-discover
            — [no] oam
            — description description-string
            — no description
            — hold-multiplier multiplier
            — no hold-multiplier
            — [no] idle-filter
            — keepalive seconds
            — no keepalive
            — [no] neighbor ip-address
              — description description-string
              — no description
              — local-address ip-address
              — no local-address
              — priority-marking dscp dscp-name
              — priority-marking prec ip-prec-value
              — no priority-marking
              — [no] shutdown
            — [no] persistency-database
            — [no] shutdown
          — [no] shutdown

```

Authentication Policy Commands

```

config
  — subscriber-mgmt
    — aaa
      — isa-radius-policy name [create]
      — no isa-radius-policy name
      — radius-coa-port {1647|1700|1812|3799}
      — no radius-coa-port
    — [no] authentication-policy name
      — [no] accept-authorization-change
      — accept-script-policy policy-name
      — no accept-script-policy
      — description description-string
      — no description
      — fallback-action accept
      — fallback-action user-db-local-user-name
      — no fallback-action
      — [no] include-radius-attribute
        — [no] access-loop-options
        — [no] acct-session-id
        — [no] called-station-id
        — calling-station-id
        — calling-station-id {mac | remote-id | sap-id | sap-string}
        — no calling-station-id
        — [no] circuit-id
        — [no] dhcp-options
        — [no] dhcp6-options
        — [no] dhcp-vendor-class-id
        — [no] mac-address
        — [no] nas-identifier
        — nas-port-id [prefix-string string] [suffix suffix-option]
        — nas-port-type
        — nas-port-type [0..255]
        — no nas-port-type
        — [no] pppoe-service-name
        — [no] remote-id
        — [no] sap-session-index
        — [no] tunnel-server-attrs
      — password password
      — no password
      — ppp-user-name append domain-name
      — ppp-user-name default-domain domain-name
      — ppp-user-name replace domain-name
      — ppp-user-name strip
      — no ppp-user-name
      — pppoe-access-method {none | padi | pap-chap}
      — no pppoe-access-method
      — radius-authentication-server
        — access-algorithm {direct | round-robin}
        — no access-algorithm
        — [no] access-loop-options
        — fallback-action accept
        — fallback-action user-db local-user-db-name
        — no fallback-action

```

- **hold-down-time** *seconds*
- **no hold-down-time**
- **retry** *count*
- **no retry**
- **router** *router-instance*
- **router** *service-name*
- **no router**
- **server** *server-index* **address** *ip-address* **secret** *key* [**hash** | **hash2**] [**port** *port*] [*coa-only*]
- **no server** *server-index*
- **source-address** *ip-address*
- **no source-address**
- **timeout** *seconds*
- **no timeout**
- **radius-server-policy** *radius-server-policy-name*
- **[no] radius-server-policy**
 - **server** *server-index* **address** *ip-address* **secret** *key* [**hash** | **hash2**] [**port** *port-num*] [*coa-only*] [**pending-requests-limit** *limit*]
 - **hold-down-time**
- **[no] re-authentication**
- **request-script-policy** *policy-name*
- **no request-script-policy**
- **send-acct-stop-on-fail** {[**on-request-failure**] [**on-reject**] [**on-accept-failure**]}
- **no send-acct-stop-on-fail**
- **user-name-format** *format* [**mac-format** *mac-format*]
- **user-name-format** *format* **append** [*domain-name*] [**mac-format** *mac-format*]
- **user-name-format** *format* **append** *domain-name*
- **user-name-format** *format* **default-domain** *domain-name* [**mac-format** *mac-format*]
- **user-name-format** *format* **replace** *domain-name* [**mac-format** *mac-format*]
- **user-name-format** *format* **strip** [**mac-format** *mac-format*]
- **no user-name-format**

RADIUS Accounting Policy Commands

```

config
  — subscriber-mgmt
    — [no] radius-accounting-policy name
      — [no] custom-record
        — [no] override-counter override-counter-id
          — e-counters [all]
          — no e-counters
            — [no] in-profile-octets-discarded-count
            — [no] in-profile-octets-forwarded-count
            — [no] in-profile-packets-discarded-count
            — [no] in-profile-packets-forwarded-count
            — [no] out-profile-octets-discarded-count
            — [no] out-profile-octets-forwarded-count
            — [no] out-profile-packets-discarded-count
            — [no] out-profile-packets-forwarded-count
          — i-counters [all]
          — no i-counters
            — [no] all-octets-offered-count
            — [no] all-packets-offered-count
            — [no] high-octets-discarded-count
            — [no] high-packets-discarded-count
            — [no] in-profile-octets-forwarded-count
            — [no] in-profile-packets-forwarded-count
            — [no] low-octets-discarded-count
            — [no] low-packets-discarded-count
            — [no] out-profile-octets-forwarded-count
            — [no] out-profile-packets-forwarded-count
        — [no] queue queue-id
          — e-counters [all]
          — no e-counters
            — [no] in-profile-octets-discarded-count
            — [no] in-profile-octets-forwarded-count
            — [no] in-profile-packets-discarded-count
            — [no] in-profile-packets-forwarded-count
            — [no] out-profile-octets-discarded-count
            — [no] out-profile-octets-forwarded-count
            — [no] out-profile-packets-discarded-count
            — [no] out-profile-packets-forwarded-count
          — i-counters [all]
          — no i-counters
            — [no] all-octets-offered-count
            — [no] all-packets-offered-count
            — [no] high-octets-discarded-count
            — [no] high-octets-offered-count
            — [no] high-packets-discarded-count
            — [no] high-packets-offered-count
            — [no] in-profile-octets-forwarded-count
            — [no] in-profile-packets-forwarded-count
            — [no] low-octets-discarded-count
            — [no] low-octets-offered-count
            — [no] low-packets-discarded-count
            — [no] low-packets-offered-count

```

- [no] out-profile-octets-forwarded-count
- [no] out-profile-packets-forwarded-count
- [no] uncoloured-octets-offered-count
- [no] uncoloured-octets-offered-count
- **ref-override-counter** *ref-override-counter-id*
- **ref-override-counter** all
- **no ref-override-counter**
 - **e-counters** [all]
 - **no e-counters**
 - [no] in-profile-octets-discarded-count
 - [no] in-profile-octets-forwarded-count
 - [no] in-profile-packets-discarded-count
 - [no] in-profile-packets-forwarded-count
 - [no] out-profile-octets-discarded-count
 - [no] out-profile-octets-forwarded-count
 - [no] out-profile-packets-discarded-count
 - [no] out-profile-packets-forwarded-count
 - **i-counters** [all]
 - **no i-counters**
 - [no] all-octets-offered-count
 - [no] all-packets-offered-count
 - [no] high-octets-discarded-count
 - [no] high-packets-discarded-count
 - [no] in-profile-octets-forwarded-count
 - [no] in-profile-packets-forwarded-count
 - [no] low-octets-discarded-count
 - [no] low-packets-discarded-count
 - [no] out-profile-octets-forwarded-count
 - [no] out-profile-packets-forwarded-count
- **ref-queue** *queue-id*
- **ref-queue** all
- **no ref-queue**
 - **e-counters** [all]
 - **no e-counters**
 - [no] in-profile-octets-discarded-count
 - [no] in-profile-octets-forwarded-count
 - [no] in-profile-packets-discarded-count
 - [no] in-profile-packets-forwarded-count
 - [no] out-profile-octets-discarded-count
 - [no] out-profile-octets-forwarded-count
 - [no] out-profile-packets-discarded-count
 - [no] out-profile-packets-forwarded-count
 - **i-counters** [all]
 - **no i-counters**
 - [no] all-octets-offered-count
 - [no] all-packets-offered-count
 - [no] high-octets-discarded-count
 - [no] high-octets-offered-count
 - [no] high-packets-discarded-count
 - [no] high-packets-offered-count
 - [no] in-profile-octets-forwarded-count
 - [no] in-profile-packets-forwarded-count
 - [no] low-octets-discarded-count
 - [no] low-packets-discarded-count
 - [no] low-octets-offered-count

- [no] **low-packets-offered-count**
- [no] **out-profile-octets-forwarded-count**
- [no] **out-profile-packets-forwarded-count**
- [no] **uncoloured-octets-offered-count**
- [no] **uncoloured-packets-offered-count**
- **significant-change** *delta*
- **no significant-change**
- **description** *description-string*
- **no description**
- **fallback-action** **accept**
- **fallback-action** **user-db** *local-user-db-name*
- **no fallback-action** **accept**
- [no] **host-accounting** [interim-update]
- **include-radius-attribute**
 - [no] **access-loop-options**
 - [no] **acct-authentic**
 - [no] **acct-delay-time**
 - [no] **all-authorized-session-addresses**
 - [no] **called-station-id**
 - [no] **calling-station-id**
 - [no] **circuit-id**
 - [no] **delegated-ipv6-prefix**
 - [no] **detailed-acct-attributes**
 - [no] **dhcp-vendor-class-id**
 - [no] **framed-interface-id**
 - [no] **framed-ip-addr**
 - [no] **framed-ip-netmask**
 - [no] **framed-ipv6-prefix**
 - [no] **framed-ipv6-route**
 - [no] **framed-route**
 - [no] **ipv6-address**
 - [no] **mac-address**
 - [no] **nas-identifier**
 - [no] **nas-port**
 - [no] **nas-port-id**
 - [no] **nas-port-type**
 - [no] **nat-port-range**
 - [no] **remote-id**
 - [no] **sla-profile**
 - [no] **std-acct-attributes**
 - [no] **sub-profile**
 - [no] **subscriber-id**
 - [no] **tunnel-server**
 - [no] **user-name**
 - [no] **v6-aggregate-stats**
 - [no] **wifi-rssi**
- **queue-instance-accounting** [interim-update]
- **no queue-instance-accounting**
- **radius-authentication-server**
 - **access-algorithm** {direct | round-robin}
 - **no access-algorithm**
 - **retry** *count*
 - **no retry**
 - **router** *router-instance*
 - **no router**

- **server** *server-index* [**address** *ip-address*] [**secret** *key*] [**port** *port*] [**pending-requests-limit** *limit*]
- **no server** *server-index*
- **source-address** *ip-address*
- **no source-address**
- **timeout** *seconds*
- **no timeout**
- **radius-server-policy** *radius-server-policy-name*
- **[no] radius-server-policy**
- **session-accounting** [**interim-update**] [**host-update**]
- **no session-accounting**
- **session-id-format** {*description* | *number*}
- **no session-id-format**
- **update-interval** *minutes*
- **no update-interval**
- **update-interval-jitter** **absolute** *seconds*
- **[no] update-interval-jitter**

RADIUS Route Download Commands

```

configure
  — aaa
    — route-downloader name [create]
    — no route-downloader name
      — base-user-name user-name
      — no base-user-name
      — default-metric metric
      — no default-metric
      — default-tag tag
      — no default-tag
      — description description-string
      — no description
      — download-interval minutes
      — no download-interval
      — max-routes routes
      — no max-routes
      — password password [hash|hash2]
      — no password
      — radius-server-policy policy-name
      — no radius-server-policy
      — retry-interval min minimum max maximum
      — no retry-interval
      — [no] shutdown

```

Diameter Policy Commands

- AAA Diameter Peer Policy Commands on page 1070
- Subscriber Management Diameter Application Policy Commands on page 1071

```

config
  — aaa
    — diameter-peer-policy peer-policy-name [role {client | proxy}] [create]
    — no diameter-peer-policy peer-policy-name
      — applications {[gx] [gy] [nasreq]}
      — no applications
      — connection-timer connection-time
      — no connection-timer
      — description description-string
      — no description
      — origin-host origin-host-string
      — no origin-host
      — origin-realm origin-realm-string
      — no origin-realm
      — peer name [create]
      — no peer name
        — address ip-address
        — no address
        — connection-timer connection-time
        — no connection-timer
        — destination-host destination-host-string
        — no destination-host
        — destination-realm destination-realm-string
        — no destination-realm
        — preference preference
        — no preference
        — [no] shutdown
        — transaction-timer seconds
        — no transaction-timer
        — transport tcp port port
        — no transport
        — watchdog-timer seconds
        — no watchdog-timer
      — python-policy [32 chars max]
      — no python-policy
      — router service service-name
      — router router-instance
      — no router
      — source-address ip-address
      — no source-address
      — transaction-timer transaction-time
      — no transaction-timer
      — vendor-support {three-gpp | vodafone}
      — no vendor-support
      — watchdog-timer wd-time
      — no watchdog-timer
  
```

Subscriber Management Diameter Application Policy Commands

```

configure
  — subscriber-mgmt
    — diameter-application-policy policy-name [create]
    — no diameter-application-policy policy-name
      — application {gx | gy | nasreq}
      — no application
      — description description-string
      — no description
      — diameter-peer-policy peer-policy-name
      — no diameter-peer-policy
    — gx
      — avp-subscription-id origin [type type]
      — no avp-subscription-id
      — ccrt-replay-interval [60..86400]
      — no ccrt-replay-interval
      — [no] include-avp
        — [no] an-gw-address
        — [no] called-station-id
        — calling-station-id [type {llid | mac | remote-id | sap-id | sap-
          string}]
        — no calling-station-id
        — [no] ip-can-type
        — [no] logical-access-id
        — nas-port binary-spec
        — no nas-port
        — nas-port-id [prefix-type {none | user-string}] [prefix-string
          prefix-string] [suffix {circuit-id | none | remote-id | user-
          string}] [suffix-string suffix-string]
        — no nas-port-id
        — nas-port-type [ [0..255] ]
        — no nas-port-type
        — [no] physical-access-id
        — [no] rat-type
        — [no] supported-features
        — user-equipment-info [type ue-info-type]
        — no user-equipment-info
      — mac-format mac-format
      — no mac-format
      — [no] report-ip-address-event
    — gy
      — avp-subscription-id origin [type type]
      — no avp-subscription-id
      — out-of-credit-reporting {final | quota-exhausted}
      — no out-of-credit-reporting
      — vendor-support {three-gpp | vodafone}
      — no vendor-support
      — [no] include-avp
        — 3gpp-imsi {circuit-id | imsi | subscriber-id}
        — no 3gpp-imsi
        — called-station-id [64 chars max]
        — no called-station-id
        — [no] radius-user-name
        — service-context-id name

```

- **no service-context-id**
- **nasreq**
 - **[no] include-avp**
 - **[no] called-station-id**
 - **calling-station-id** [type {llid | mac | remote-id | sap-id | sap-string}]
 - **no calling-station-id**
 - **[no] circuit-id**
 - **nas-port** *binary-spec*
 - **no nas-port**
 - **nas-port-id** [prefix-type {none | user-string}] [prefix-string [8 chars max]] [suffix-type {circuit-id | none | remote-id | user-string}] [suffix-string [64 chars max]]
 - **no nas-port-id**
 - **nas-port-type** [0..255]
 - **nas-port-type**
 - **no nas-port-type**
 - **[no] remote-id**
 - **mac-format** *mac-format*
 - **no mac-format**
 - **password** *password*
 - **no password**
 - **user-name-format** *format*
 - **no user-name-format**
 - **user-name-operation** operation [domain *domain-name*]
 - **no user-name-operation**
- **on-failure** [failover {enabled | disabled}] [handling {continue | retry-and-terminate | terminate}]
- **no on-failure**
- **tx-timer** *seconds*
- **no tx-timer**

Category Map and Credit Control Policy Commands

```

config
  — subscriber-mgmt
    — category-map category-map-name [create]
    — no category-map category-map-name
      — description description-string
      — no description
      — activity-threshold kilobits-per-second
      — no activity-threshold
      — category category-name [create]
      — no category category-name
        — credit-type-override {volume | time}
        — no credit-type-override
        — default-credit volume credits bytes|kilobytes|megabytes|gigabytes
        — default-credit time seconds
        — no default-credit
        — description description-string
        — no description
        — [no] exhausted-credit-service-level
          — [no] egress-ip-filter-entries
            — entry entry-id [create]
              — action drop
              — action forward
              — action http-redirect url
              — no action
              — description description-string
              — no description
              — match [protocol protocol-id]
              — no match
                — dscp dscp-name
                — no dscp
                — dst-port {lt|gt|eq} dst-port-number
                — dst-port range start end
                — no dst-port
                — fragment {true|false}
                — icmp-code icmp-code
                — no icmp-code
                — icmp-type icmp-type
                — no icmp-type
                — ip-option ip-option-value [ip-option-mask]
                — no ip-option
                — multiple-option {true | false}
                — option-present {true | false}
                — src-ip {ip-address/mask | ip-address netmask}
                — no src-ip
                — src-port {lt|gt|eq} src-port-number
                — src-port range start end
                — no src-port
                — tcp-ack {true|false}
                — no tcp-ack
                — tcp-syn {true|false}
                — no tcp-syn
            — [no] egress-ipv6-filter-entries

```

- **entry** *entry-id* [**create**]
 - **action** **drop**
 - **action** **forward**
 - **no** **action**
 - **description** *description-string*
 - **no** **description**
 - **match** [**next-header** *next-header*]
 - **no** **match**
 - **dscp** *dscp-name*
 - **no** **dscp**
 - **dst-port** {**lt|gt|eq**} *dst-port-number*
 - **dst-port** **range** *start end*
 - **no** **dst-port**
 - **icmp-code** *icmp-code*
 - **no** **icmp-code**
 - **icmp-type** *icmp-type*
 - **no** **icmp-type**
 - **src-ip** {*ip-address/mask* | *ip-address net-mask*}
 - **no** **src-ip**
 - **src-port** {**lt|gt|eq**} *src-port-number*
 - **src-port** **range** *start end*
 - **no** **src-port**
 - **tcp-ack** {**true|false**}
 - **no** **tcp-ack**
 - **tcp-syn** {**true|false**}
 - **no** **tcp-syn**
- [**no**] **ingress-ip-filter-entries**
 - **entry** *entry-id* [**create**]
 - **action** **drop**
 - **action** **forward**
 - **action** **http-redirect** *url*
 - **no** **action**
 - **description** *description-string*
 - **no** **description**
 - **match** [**protocol** *protocol-id*]
 - **no** **match**
 - **dscp** *dscp-name*
 - **no** **dscp**
 - **dst-ip** {*ip-address/mask* | *ip-address net-mask*}
 - **no** **dst-ip**
 - **dst-port** {**lt|gt|eq**} *dst-port-number*
 - **dst-port** **range** *start end*
 - **no** **dst-port**
 - **fragment** {**true|false**}
 - **icmp-code** *icmp-code*
 - **no** **icmp-code**
 - **icmp-type** *icmp-type*
 - **no** **icmp-type**
 - **ip-option** *ip-option-value* [*ip-option-mask*]
 - **no** **ip-option**
 - **multiple-option** {**true|false**}
 - **option-present** {**true|false**}
 - **src-port** {**lt|gt|eq**} *src-port-number*

- **src-port range** *start end*
- **no src-port**
- **tcp-ack** {true|false}
- **no tcp-ack**
- **tcp-syn** {true|false}
- **no tcp-syn**
- **[no] ingress-ipv6-filter-entries**
 - **entry** *entry-id* [**create**]
 - **action drop**
 - **action forward**
 - **no action**
 - **description** *description-string*
 - **no description**
 - **match** [**next-header** *next-header*]
 - **no match**
 - **dscp** *dscp-name*
 - **no dscp**
 - **dst-ip** {*ip-address/mask* | *ip-address net-mask*}
 - **no dst-ip**
 - **dst-port** {<|gt;|eq} *dst-port-number*
 - **dst-port range** *start end*
 - **no dst-port**
 - **icmp-code** *icmp-code*
 - **no icmp-code**
 - **icmp-type** *icmp-type*
 - **no icmp-type**
 - **src-port** {<|gt;|eq} *src-port-number*
 - **src-port range** *start end*
 - **no src-port**
 - **tcp-ack** {true|false}
 - **no tcp-ack**
 - **tcp-syn** {true|false}
 - **no tcp-syn**
- **pir** *pir-rate*
- **pir max**
- **no pir**
- **out-of-credit-action-override** {continue | block-category | change-service-level}
- **no out-of-credit-action-override**
- **policer** *policer-id* {ingress-only|egress-only|ingress-egress}
- **no policer** *policer-id*
- **queue** *queue-id* {ingress-only | egress-only | ingress-egress}
- **no queue** *queue-id*
- **rating-group** *rating-group-id*
- **no rating-group**
- **credit-exhaust-threshold** *threshold-percentage*
- **no credit-exhaust-threshold**
- **credit-type** {volume | time}
- **no credit-type**
- **credit-control-policy** *policy-name* [**create**]
- **no credit-control-policy** *policy-name*
 - **credit-control-server** *radius*
 - **no credit-control-server**
 - **default-category-map** *category-map-name*

Configuration Commands

- **no default-category-map**
- **description** *description-string*
- **no description**
- **error-handling-action** {**continue** | **block**}
- **no error-handling-action**
- **out-of-credit-action** *action*
- **no out-of-credit-action**

Filter Commands

```

config
  — filter
    — copy {ip-filter | mac-filter | ipv6-filter} src-filter-id [src-entry src-entry-id] to dst-filter-id
      [dst-entry dst-entry-id] [overwrite]
    — dhcp6-filter filter-id [create]
    — no dhcp6-filter filter-id
      — default-action bypass-host-creation [na] [pd]
      — default-action drop
      — no default-action
      — description description-string
      — no description
      — entry entry-id [create]
      — no entry entry-id
        — action bypass-host-creation [na] [pd]
        — action drop
        — no action
        — option dhcp6-option-number {present|absent}
        — option dhcp6-option-number match hex hex-string [exact] [invert-match]
        — option dhcp6-option-number match string ascii-string [exact] [invert-match]
        — no option
    — ip-filter filter-id [create]
    — no ip-filter filter-id
      — default-action drop|forward
      — description description-string
      — entry entry-id [time-range time-range-name] [create]
      — no entry entry-id
        — action drop|forward
        — no action
        — log log-id
        — no log
        — match [next-header next-header]
        — no match
          — dscp
          — no dscp
          — dst-ip
          — no dst-ip
          — dst-port
          — no dst-port
          — icmp-code
          — no icmp-code
          — icmp-type
          — no icmp-type
          — src-ip
          — no src-ip
          — src-port
          — no src-port
          — tcp-ack
          — no tcp-ack
          — tcp-syn
          — no tcp-syn
      — group-inserted-entries application location location

```

- **renum** *old-entry-id new-entry-id*
- **scope** *exclusive|template*
- **no scope**
- **shared-radius-filter-wmark** **low** *low-watermark* **high** *high-watermark*
- **sub-insert-radius** **start-entry** *entry-id count count*
- **no sub-insert-radius**
- **sub-insert-credit-control** **start-entry** *entry-id count count*
- **no sub-insert-credit-control**
- **sub-insert-shared-radius** **start-entry** *entry-id count count*
- **sub-insert-wmark** [**low** *percentage*] [**high** *percentage*]
- **no sub-insert-wmark**
- **ipv6-filter** *ipv6-filter-id* [**create**]
- **no ipv6-filter** *ipv6-filter-id*
 - **default-action** *drop|forward*
 - **description** *description-string*
 - **entry** *entry-id* [**time-range** *time-range-name*] [**create**]
 - **no entry** *entry-id*
 - **action** *drop|forward*
 - **no action**
 - **log** *log-id*
 - **no log**
 - **match** [**next-header** *next-header*]
 - **no match**
 - **dscp**
 - **no dscp**
 - **dst-ip**
 - **no dst-ip**
 - **dst-port**
 - **no dst-port**
 - **icmp-code**
 - **no icmp-code**
 - **icmp-type**
 - **no icmp-type**
 - **src-ip**
 - **no src-ip**
 - **src-port**
 - **no src-port**
 - **tcp-ack**
 - **no tcp-ack**
 - **tcp-syn**
 - **no tcp-syn**
- **group-inserted-entries** **application** *application* **location** *location*
- **renum** *old-entry-id new-entry-id*
- **scope** *exclusive|template*
- **no scope**
- **shared-radius-filter-wmark** **low** *low-watermark* **high** *high-watermark*
- **sub-insert-radius** **start-entry** *entry-id count count*
- **no sub-insert-radius**
- **sub-insert-credit-control** **start-entry** *entry-id count count*
- **no sub-insert-credit-control**
- **sub-insert-shared-radius** **start-entry** *entry-id count count*
- **sub-insert-wmark** [**low** *percentage*] [**high** *percentage*]
- **no sub-insert-wmark**

BGP Peering Policy Commands

```

config
  — subscriber-mgmt
    — bgp-peering-policy policy-name [create]
    — no bgp-peering-policy policy-name
      — [no] advertise-inactive
      — [no] aggregator-id-zero
      — [no] as-override
      — auth-keychain name
      — no auth-keychain
      — authentication-key [authentication-key | hash-key] [hash | hash2]
      — no authentication-key
      — cluster cluster-id
      — no cluster
      — [no] connect-retry seconds
      — [no] damping
      — description description-string
      — no description
      — [no] disable-4byte-asn
      — [no] disable-client-reflect
      — disable-communities [standard] [extended]
      — no disable-communities
      — [no] disable-fast-external-failover
      — export policy-name [policy-name...(upto 5 max)]
      — no export
      — hold-time seconds
      — no hold-time
      — import policy-name [policy-name...(up to 5 max)]
      — no import
      — keepalive seconds
      — no keepalive
      — local-address ip-address
      — no local-address
      — local-as as-number [private]
      — no local-as
      — local-preference local-preference
      — no local-preference
      — loop-detect {drop-peer | discard-route | ignore-loop| off}
      — no loop-detect
      — med-out {number | igp-cost}
      — no med-out
      — min-as-origination seconds
      — no min-as-origination
      — min-route-advertisement seconds
      — no min-route-advertisement
      — multihop ttl-value
      — no multihop
      — [no] next-hop-self
      — [no] passive
      — peer-as as-number
      — preference preference
      — no preference
      — prefix-limit limit [log-only] [threshold percent]
      — no prefix-limit

```

Configuration Commands

- **[no] remove-private**
- **ttl-security** *min-ttl-value*
- **no ttl-security**
- **type** {**internal** | **external**}
- **no type**

Explicit Subscriber Mapping Commands

```

config
  — subscriber-mgmt
    — explicit-sub-map
      — entry key sub-ident-string [sub-profile sub-profile-name] [alias sub-alias-string] [sla-profile sla-profile-name]
      — no entry key sub-ident-string
  
```

IGMP Policy Commands

```

config
  — subscriber-mgmt
    — igmp-policy policy-name [create]
      — description description-string
      — no description
      — egress-rate-modify [egress-rate-limit | scheduler scheduler-name]
      — [no] fast-leave
      — import policy-name
      — no import
      — max-num-groups max-num-groups
      — no max-num-groups
      — max-num-sources max-num-sources
      — no max-num-sources
      — max-num-grp-sources [1..32000]
      — no max-num-grp-sources
      — [no] mcast-reporting
        — mcast-reporting-dest dest-name
        — no mcast-reporting-dest
        — opt-reporting-fields [host-mac] [pppoe-session-id] [svc-id] [sap-id]
        — no opt-reporting-fields
        — [no] shutdown
      — per-host-replication [uni-mac|mcast-mac]
      — no per-host-replication
      — redirection-policy policy-name
      — no redirection-policy
      — static
        — [no] group ip-address
      — version version
      — no version
    — sub-mcac-policy policy-name
    — sub-profile
      — sub-mcac-policy policy-name
  
```

Host Lockout Commands

```

config
  — subscriber-mgmt
    — host-lockout-policy policy-name [create]
    — no host-lockout-policy policy-name
      — description description-string
      — no description
      — host-key {mac}
      — no host-key
      — lockout-reset-time seconds
      — no lockout-reset-time
      — lockout-time [min seconds] [max seconds]
      — no lockout-time
      — max-lockout-hosts hosts
      — no max-lockout-hosts

config
  — service
    — vpn service-id [customer customer-id]
    — no vpn service-id
      — [no] interface ip-int-name
        — sap sap-id [create]
        — no sap sap-id
          — host-lockout-policy policy-name
          — no host-lockout-policy
        — subscriber-interface ip-int-name [fwd-service service-id fwd-subscriber-inter-
face ip-int-name] [create]
        — no subscriber-interface ip-int-name
          — sap sap-id [create]
          — no sap sap-id
            — host-lockout-policy policy-name
            — no host-lockout-policy

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id]
      — [no] interface ip-int-name
        — [no] sap sap-id
          — host-lockout-policy policy-name
          — host-lockout-policy
      — [no] subscriber-interface ip-int-name [fwd-service service-id fwd-subscriber-
interface ip-int-name] [create]
        — [no] sap sap-id
          — host-lockout-policy policy-name
          — no host-lockout-policy

config
  — service
    — [no] vpls service-id [customer customer-id] [vpn vpn-id] [m-vpls]
      — sap sap-id [split-horizon-group group-name] [create] [capture-sap] [eth-ring
ring-index]
      — no sap sap-id
        — host-lockout-policy policy-name
        — no host-lockout-policy

```


Host Tracking Policy Commands

```
config
— subscriber-mgmt
  — host-tracking-policy policy-name [create]
  — no host-tracking-policy policy-name
    — description description-string
    — no description
    — egress-rate-modify agg-rate-limit
    — egress-rate-modify scheduler scheduler-name
    — no egress-rate-modify
```

PIM Policy Commands

- config**
- **subscriber-mgmt**
- **pim-policy** *policy-name* [**create**]
- **no pim-policy** *policy-name*
 - **description** *description-string*
 - **no description**

SLA Profile Commands

```

config
  — subscriber-mgmt
    — [no] sla-profile sla-profile-name
      — category-map category-map-name [create]
      — no category-map category-map-name
        — category category-name [create]
        — no category category-name
          — idle-timeout timeout
          — no idle-timeout
          — idle-timeout-action {shcv-check|terminate}
          — no idle-timeout-action
      — description description-string
      — no description
      — egress
        — [no] ip-filter filter-id
        — qos sap-egress-policy-id [vport-scheduler|port-scheduler] [force]
        — no qos
          — queue queue-id
          — no queue queue-id
            — avg-frame-overhead percent
            — no avg-frame-overhead
            — burst-limit
            — no burst-limit
            — burst-limit size-in-kbytes
            — no burst-limit
            — high-prio-only percent
            — no high-prio-only
            — mbs size-in-kbytes
            — no mbs
            — rate pir-rate [cir cir-rate]
            — no rate
            — stat-mode stat-mode
            — no stat-mode
          — policer policer-id [create]
          — no policer policer-id
            — cbs {size [bytes | kilobytes] | default}
            — no cbs
            — mbs {size [bytes | kilobytes] | default}
            — no mbs
            — packet-byte-offset {add bytes | subtract bytes}
            — no packet-byte-offset
            — rate {max | kilobits-per-second} [cir {max | kilobits-per-second}]
            — no rate
            — stat-mode stat-mode
            — no stat-mode
        — [no] qos-marking-from-sap
        — report-rate agg-rate-limit
        — report-rate scheduler scheduler-name
        — report-rate pppoe-actual-rate
        — report-rate rfc5515-actual-rate
        — no report-rate
        — scheduler-policy scheduler-policy-name

```

- **no scheduler-policy**
- **[no] use-ingress-l2tp-dscp**
- **[no] host-limits**
 - **ipv4-arp** *max-nr-of-hosts*
 - **no ipv4-arp**
 - **ipv4-dhcp** *max-nr-of-hosts*
 - **no ipv4-dhcp**
 - **ipv4-overall** *max-nr-of-hosts*
 - **no ipv4-overall**
 - **ipv4-ppp** *max-nr-of-hosts*
 - **no ipv4-ppp**
 - **ipv6-overall** *max-nr-of-hosts*
 - **no ipv6-overall**
 - **ipv6-pd-ipoe-dhcp** *max-nr-of-hosts*
 - **no ipv6-pd-ipoe-dhcp**
 - **ipv6-pd-overall** *max-nr-of-hosts*
 - **no ipv6-pd-overall**
 - **ipv6-pd-ppp-dhcp** *max-nr-of-hosts*
 - **no ipv6-pd-ppp-dhcp**
 - **ipv6-wan-ipoe-dhcp** *max-nr-of-hosts*
 - **no ipv6-wan-ipoe-dhcp**
 - **ipv6-wan-ipoe-slaac** *max-nr-of-hosts*
 - **no ipv6-wan-ipoe-slaac**
 - **ipv6-wan-overall** *max-nr-of-hosts*
 - **no ipv6-wan-overall**
 - **ipv6-wan-ppp-dhcp** *max-nr-of-hosts*
 - **no ipv6-wan-ppp-dhcp**
 - **ipv6-wan-ppp-slaac** *max-nr-of-hosts*
 - **no ipv6-wan-ppp-slaac**
 - **lac-overall** *max-nr-of-hosts*
 - **no lac-overall**
 - **overall** *max-nr-of-hosts*
 - **no overall**
 - **[no] remove-oldest**
- **ingress**
 - **[no] ip-filter** *filter-id*
 - **qos** *sap-ingress-policy-id* [**shared-queuing** | **multipoint-shared** | **service-queuing**] [**force**]
 - **no qos**
 - **queue** *queue-id*
 - **no queue** *queue-id*
 - **burst-limit**
 - **no burst-limit**
 - **burst-limit** *size-in-kbytes*
 - **no burst-limit**
 - **high-prio-only** *percent*
 - **no high-prio-only**
 - **mbs** *size-in-kbytes*
 - **no mbs**
 - **rate** *pir-rate* [**cir** *cir-rate*]
 - **no rate**
 - **stat-mode** {**v4-v6**}
 - **no stat-mode**
 - **policer** *policer-id* [**create**]
 - **no policer** *policer-id*

- **cbs** {*size* [bytes | kilobytes] | default}
- **no cbs**
- **mbs** {*size* [bytes | kilobytes] | default}
- **no mbs**
- **packet-byte-offset** {add *bytes* | subtract *bytes*}
- **no packet-byte-offset**
- **rate** {max | kilobits-per-second} [cir {max | kilobits-per-second}]
- **no rate**
- **stat-mode** {v4-v6}
- **no stat-mode**
- **report-rate** **agg-rate-limit**
- **report-rate** scheduler *scheduler-name*
- **no report-rate**
- **one-time-http-redirection** *filter-id*

Subscriber Identification Policy Commands

- config
 - **subscriber-mgmt**
 - **[no] sub-ident-policy** *sub-ident-policy-name*
 - **app-profile-map**
 - **entry key** *app-profile-string* **app-profile** *app-profile-name*
 - **no entry key** *app-profile-string*
 - **[no] use-direct-map-as-default**
 - **description** *description-string*
 - **no description**
 - **primary**
 - **script-url** *dhcp-primary-script-url*
 - **no script-url**
 - **[no] shutdown**
 - **secondary**
 - **script-url** *dhcp-secondary-script-url*
 - **no script-url**
 - **[no] shutdown**
 - **sla-profile-map**
 - **entry key** *sla-profile-string* **sla-profile** *sla-profile-name*
 - **no entry key** *sla-profile-string*
 - **[no] use-direct-map-as-default**
 - **sub-profile-map**
 - **entry key** *sub-profile-string* **sub-profile** *sub-profile-name*
 - **no entry key** *sub-profile-string*
 - **[no] use-direct-map-as-default**
 - **tertiary**
 - **script-url** *dhcp-tertiary-script-url*
 - **no script-url**
 - **[no] shutdown**

Auto-Generated Subscriber Identification Key Commands

Note: These commands are supported on the 7450 ESS in mixed mode.

```

config
  — subscriber-mgmt
    — auto-sub-id-key
      — ipoe-sub-id-key sub-id-key [sub-id-key...(up to 4 max)]
      — no ipoe-sub-id-key
      — ppp-sub-id-key sub-id-key [sub-id-key...(up to 5 max)]
      — no ppp-sub-id-key

```

Auto-Generated Subscriber Identification Key Service Commands

Notes: Refer to the 7750 SR OS Services Guide/7450 ESS OS Services Guide for further services commands.

```

config
  — service
    — vprn
      — subscriber-interface ip-int-name
        — group-interface ip-int-name
          — sap sap-id
            — sub-sla-mgmt
              — def-sub-id use-auto-id
              — def-sub-id use-sap-id
              — def-sub-id string sub-id
              — no def-sub-id
        — vpls
          — sap sap-id
            — sub-sla-mgmt
              — def-sub-id use-auto-id
              — def-sub-id use-sap-id
              — def-sub-id string sub-id
              — no def-sub-id
      — ies
        — subscriber-interface ip-int-name
          — group-interface ip-int-name
            — sap sap-id
              — sub-sla-mgmt
                — def-sub-id use-auto-id
                — def-sub-id use-sap-id
                — def-sub-id string sub-id
                — no def-sub-id

    — subscriber-management
      — msap-policy msap-policy-name
        — sub-sla-mgmt

```

- **def-sub-id** **use-auto-id**
- **def-sub-id** **use-sap-id**
- **def-sub-id** **string** *sub-id*
- **no** **def-sub-id**

Subscriber MCAC Policy Commands

config

- **subscriber-mgmt**
 - **sub-mcac-policy** *sub-mcac-policy-name* [**create**]
 - **no** **sub-mcac-policy** *sub-mcac-policy-name*
 - **description** *description-string*
 - **no** **description**
 - [**no**] **shutdown**
 - **unconstrained-bw** *mandatory-bw mandatory-bw*
 - **no** **unconstrained-bw**

Subscriber Profile Commands

For information about configuring accounting policies, refer to the **SR OS System Management Guide**.

```

config
  — subscriber-mgmt
    — [no] sub-profile subscriber-profile-name
      — accounting-policy acct-policy-id
      — no accounting-policy
      — ancp
        — ancp-policy name
        — no ancp-policy
          — egress
            — rate-adjustment
            — rate-adjustment adjusted-percent
            — no rate-adjustment
            — rate-modify scheduler scheduler-name
            — no rate-modify
            — rate-monitor kilobit-per-second [alarm]
            — no rate-monitor
            — rate-reduction kilobit-per-second
            — no rate-reduction
          — ingress
            — rate-adjustment adjusted-percent
            — no rate-adjustment
            — rate-modify scheduler scheduler-name
            — no rate-modify
            — rate-monitor kilobit-per-second [alarm]
            — no rate-monitor
            — rate-reduction kilobit-per-second
            — no rate-reduction
        — [no] collect-stats
      — description description-string
      — no description
    — egress
      — agg-rate-limit agg-rate [queue-frame-based-accounting]
      — no agg-rate-limit
      — avg-frame-size bytes
      — no avg-frame-size
      — encap-offset [type type]
      — no encap-offset
      — lag-per-link-hash class {1|2|3} weight 1..1024
      — no lag-per-link-hash
      — policer-control-policy policy-name
      — no policer-control-policy
        — max-rate {kilobits-per-second | max}
        — no max-rate
        — priority-mbs-thresholds
          — min-thresh-separation size [bytes | kilobytes]
          — no min-thresh-separation
          — priority level
            — mbs-contribution size [bytes | kilobytes] [fixed]
        — scheduler-policy scheduler-policy-name

```

- **no scheduler-policy**
 - **scheduler** *scheduler-name* **rate** [*pir-rate*] [**cir** *cir-rate*]
 - **no scheduler** *scheduler-name*
- **[no] host-tracking-policy**
- **no host-tracking-policy** *policy-name*
 - **description** *description-string*
 - **no description**
 - **egress-rate-modify** **agg-rate-limit**
 - **egress-rate-modify** **scheduler** *scheduler-name*
 - **no egress-rate-modify**
- **hsmda**
 - **egress-qos**
 - **agg-rate-limit** *agg-rate*
 - **no agg-rate-limit**
 - **qos** *policy-id*
 - **no qos**
 - **wrr-policy** *weight*
 - **no wrr-policy**
 - **packet-byte-offset** {**add** *add-bytes* | **subtract** *sub-bytes*}
 - **no packet-byte-offset**
 - **queue** *queue-id* [**create**]
 - **no queue** *queue-id*
 - **rate** *pir-rate* [**cir** *cir-rate*]
 - **no rate**
 - **rate** {**max** | *kilobits-per-second*}
 - **no rate**
 - **slope-policy** *hsmda-slope-policy-name*
 - **no slope-policy**
 - **stat-mode** {**v4-v6**}
 - **no stat-mode**
 - **wrr-weight** *weight*
 - **no wrr-weight**
 - **ingress-qos**
 - **qos** *policy-id*
 - **no qos**
 - **queue** *queue-id*
 - **rate** {**max** | *kilobits-per-second*}
 - **no rate**
 - **cbs** {*size* [**bytes** | **kilobytes**] | **default**}
 - **no cbs**
 - **mbs** *kilobits*
 - **no mbs**
 - **stat-mode** {**v4-v6**}
 - **no stat-mode**
 - **policer** *policer-id* [**create**]
 - **cbs** {*size* [**bytes** | **kilobytes**] | **default**}
 - **no cbs**
 - **mbs** *kilobits*
 - **no mbs**
 - **packet-byte-offset** {**add** *add-bytes* | **subtract** *sub-bytes*}
 - **no packet-byte-offset**
 - **rate** {**max** | *kilobits-per-second*}
 - **no rate**

- **stat-mode** {v4-v6}
- **no stat-mode**
- **igmp-policy** *policy-name*
- **no igmp-policy**
- **ingress**
 - **policer-control-policy** *policer-control-policy-name*
 - **no policer-control-policy**
 - **max-rate** {*rate* | **max**}
 - **no max-rate**
 - **priority-mbs-thresholds**
 - **min-thresh-separation** *size* [bytes|kilobytes]
 - **min-thresh-separation** **default**
 - **no min-thresh-separation**
 - **priority** *level*
 - **mbs-contribution** *size* [bytes | kilobytes]
 - **scheduler-policy** *scheduler-policy-name*
 - **no scheduler-policy**
 - **scheduler** *scheduler-name* **rate** [*pir-rate*] [**cir** *cir-rate*]
 - **no scheduler** *scheduler-name*
- **pim-policy** *policy-name*
- **no pim-policy** *policy-name*
- **radius-accounting-policy**
- **no radius-accounting-policy**
- **sla-profile-map**
 - **entry** **key** *sla-profile-string* **sla-profile** *sla-profile*
 - **no entry** **key** *sla-profile-string*
 - **[no] use-direct-map-as-default**
- **sub-mcac-policy** *policy-name*
- **no sub-mcac-policy**
- **volume-stats-type** {ip|default}
- **no volume-stats-type**

IPoE Session Policy Commands

- ```

config
 — subscriber-mgmt
 — ipoe-session-policy policy-name [create]
 — no ipoe-session-policy policy-name
 — description description-string
 — no description
 — session-key sap mac [cid] [rid]
 — no session-key
 — session-timeout timeout
 — no session-timeout

```

## Multi-Chassis Redundancy Commands

```

config
 — redundancy
 — multi-chassis
 — [no] peer ip-address
 — authentication-key [authentication-key | hash-key] [hash | hash2]
 — no authentication-key
 — description description-string
 — no description
 — mc-ipsec
 — bfd-enable service service-id interface interface-name dst-ip
 ip-address
 — no bfd-enable
 — discovery-interval interval-1 [boot interval-2]
 — no discovery-interval
 — hold-on-neighbor-failure multiplier
 — no hold-on-neighbor-failure
 — keep-alive-interval time-interval
 — no keep-alive-interval
 — tunnel-group group-id [create]
 — no tunnel-group group-id
 — peer-group group-id
 — no peer-group
 — priority priority
 — no priority
 — [no] preempt
 — [no] shutdown
 — [no] mc-lag
 — hold-on-neighbor-failure multiplier
 — no hold-on-neighbor-failure
 — keep-alive-interval interval
 — no keep-alive-interval
 — lag lag-id lacp-key admin-key system-id system-id [remote-lag
 lag-id] system-priority system-priority
 — no lag lag-id
 — [no] shutdown
 — mc-ring
 — [no] ring sync-tag
 — in-band-control-path
 — [no] debounce
 — dst-ip ip-address
 — no dst-ip
 — interface ip-int-name
 — no interface
 — no max-debounce-time
 — service-id service-id
 — no service-id
 — [no] path-b
 — [no] range vlan-range
 — [no] path-excl
 — [no] range vlan-range
 — [no] ring-node ring-node-name
 — connectivity-verify

```

```

— dst-ip ip-address
— no dst-ip
— interval interval
— no interval
— service-id service-id
— no service-id
— [no] shutdown
— src-ip ip-address
— no src-ip
— src-mac ieee-address
— no src-mac
— vlan [0..4094]
— no vlan
— [no] shutdown
— [no] l3-ring sync-tag
— in-band-control-path
— [no] debounce
— dst-ip ip-address
— no dst-ip
— interface ip-int-name
— no interface
— max-debounce-time max-debounce-time
— no max-debounce-time
— service-id service-id
— no service-id
— [no] ring-node ring-node-name
— connectivity-verify
— dst-ip ip-address
— no dst-ip
— interval interval
— no interval
— service-id service-id
— no service-id
— [no] shutdown
— src-ip ip-address
— no src-ip
— src-mac ieee-address
— no src-mac
— vlan [0..4094]
— no vlan
— [no] srrp-instance srrp-id
— [no] shutdown
— [no] shutdown
— source-address ip-address
— no source-address
— [no] sync
— [no] igmp
— [no] igmp-snooping
— [no] ipsec
— [no] local-dhcp-server
— [no] mc-ring
— [no] mld-snooping
— port [port-id|lag-id] [sync-tag sync-tag] [create]
— no port [port-id | lag-id]
— range encap-range [sync-tag sync-tag]

```

- **no range** *encap-range*
- **[no] shutdown**
- **[no] srrp**
- **[no] sub-host-trk**
- **[no] sub-mgmt**
- **tunnel-group** *tunnel-group-id sync-tag tag-name* **[create]**
- **no tunnel-group**

## Subscriber Management Service Commands

### VPLS Subscriber Management Configuration Commands

```

config
 — service
 — [no] vpls service-id [customer customer-id] [vpn vpn-id] [m-vpls]
 — sap sap-id [split-horizon-group group-name] [create] [capture-sap]
 — no sap sap-id
 — arp-host
 — host-limit max-num-hosts
 — no host-limit
 — min-auth-interval min-auth-interval
 — no min-auth-interval
 — [no] shutdown
 — diameter-application-policy policy-name
 — no diameter-application-policy
 — diameter-auth-policy name
 — no diameter-auth-policy
 — host [ip ip-address [mac mac-address]] {subscriber-sap-id | subscriber
 sub-ident-string [sub-profile sub-profile-name [sla-profile sla-profile-
 name [ancp-string ancp-string] [app-profile app-profile-name] [inter-
 dest-id intermediate-destination-id]
 — no host [ip ip-address [mac mac-address]]
 — no host all
 — host-connectivity-verify source-ip ip-address [source-mac ieee-address]
 [interval interval] [action {remove | alarm}]
 — [no] sub-sla-mgmt
 — def-app-profile default-app-profile-name
 — no def-app-profile
 — def-sla-profile default-sla-profile-name
 — no def-sla-profile
 — def-sub-id string sub-ident-string
 — def-sub-id use-sap-id
 — no def-sub-id
 — def-sub-profile default-sub-profile-name
 — no def-sub-profile
 — [no] mac-da-hashing
 — multi-sub-sap number-of-sub
 — no multi-sub-sap
 — [no] shutdown
 — single-sub-parameters
 — non-sub-traffic sub-profile sub-profile-name sla-pro-
 file sla-profile-name [subscriber sub-ident-string]
 — no non-sub-traffic
 — [no] profiled-traffic-only
 — sub-ident-policy sub-ident-policy-name
 — no sub-ident-policy
 — sap sap-id [create] [capture-sap]
 — ipoe-session
 — description description-string
 — no description
 — ipoe-session-policy policy-name
 — no ipoe-session-policy

```

## Subscriber Management Service Commands

- **user-db** *local-user-db-name*
- **no user-db**
- [**no**] **shutdown**



## Managed SAP Policy Commands

```

config
 — subscriber-mgmt
 — msap-policy msap-policy-name [create]
 — no msap-policy msap-policy-name
 — cpu-protection policy-id [mac-monitoring]
 — no cpu-protection
 — description description-string
 — no description
 — no dist-cpu-protection policy-name
 — ies-vprn-only-sap-parameters
 — anti-spoof {ip-mac | nh-mac}
 — no anti-spoof
 — igmp-host-tracking
 — expiry-time expiry-time
 — no expiry-time
 — import policy-name
 — no import policy-name
 — max-num-group max-num-groups
 — no max-num-group
 — max-num-sources max-num-sources
 — no max-num-sources
 — max-num-grp-sources [1..32000]
 — no max-num-grp-sources [1..32000]
 — lag-link-map-profile link-map-profile-id
 — no lag-link-map-profile
 — sub-sla-mgmt
 — def-app-profile app-profile-name
 — no def-app-profile
 — def-inter-dest-id {string string | use-top-q}
 — no def-inter-dest-id
 — def-sla-profile sla-profile-name
 — no def-sla-profile
 — def-sub-id use-sap-id
 — def-sub-id string sub-id
 — no def-sub-id
 — def-sub-profile sub-profile-name
 — no def-sub-profile
 — multi-sub-sap [limit limit]
 — no multi-sub-sap
 — single-sub-parameters
 — non-sub-traffic sub-profile-name sla-profile sla-profile-name
 [subscriber sub-ident-string] [app-profile app-profile-name]
 — no non-sub-traffic
 — [no] profiled-traffic-only
 — sub-ident-policy policy-name
 — no sub-ident-policy
 — vpls-only-sap-parameters
 — arp-host
 — host-limit max-num-hosts
 — no host-limit
 — min-auth-interval min-auth-interval
 — no min-auth-interval
 — arp-reply-agent [sub-ident]

```

- **no arp-reply-agent**
- **dhcp**
  - **lease-populate** *[nbr-of-leases]*
  - **no lease-populate**
  - **[no] option**
    - **action** *dhcp-action*
    - **no action**
    - **circuit-id** {*ascii-tuple* | *vlan-ascii-tuple*}
    - **remote-id** {*mac* | *string string*}
    - **no remote-id**
    - **[no] vendor-specific-option**
      - **[no] client-mac-address**
      - **[no] sap-id**
      - **[no] service-id**
      - **[no] string**
      - **[no] system-id**
  - **proxy-server**
    - **emulated-server** *ip-address*
    - **no emulated-server**
    - **lease-time** [*days days*] [*hrs hours*] [*min minutes*] [*sec seconds*] [*radius-override*]
    - **no lease-time**
    - **[no] shutdown**
- **egress**
  - **multicast-group** *group-name*
  - **no multicast-group**
- **igmp-snooping**
  - **[no] fast-leave**
  - **import** *policy-name*
  - **no import**
  - **last-member-query-interval** *interval*
  - **no last-member-query-interval**
  - **max-num-groups** *max-num-groups*
  - **no max-num-groups**
  - **mcac**
    - **mc-constraints**
      - **level** *level-id* **bw** *bandwidth*
      - **no level** *level-id*
      - **number-down** *number-lag-port-down* **level** *level-id*
      - **no number-down** *number-lag-port-down*
      - **policy** *policy-name*
      - **no policy**
      - **unconstrained-bw** *bandwidth* **mandatory-bw** *mandatory-bw*
      - **no unconstrained-bw**
      - **no use-lag-port-weight**
- **mvr**
  - **from-vpls** *service-id*
  - **no from-vpls**
  - **query-interval** *seconds*
  - **no query-interval**
  - **query-response-interval** *seconds*
  - **no query-response-interval**
  - **robust-count** *robust-count*

- **no robust-count**
- **[no] send-queries**
- **version** *version*
- **no version**
- **[no] mac-da-hashing**
- **split-horizon-group** *group-name*
- **no split-horizon-group**

## Subscriber Management Service Commands

```
config
 — service
 — vpls
 — sap
 — default-msap-policy policy-name
 — no default-msap-policy
 — trigger-packet [dhcp] [pppoe] [arp] [dhcp6] [ppp]
 — no trigger-packet
 — eval-msap {policy msap-policy-name | msap sap-id}
```

## VPRN Subscriber Interface Configuration Commands

```

config
 — service
 — vprn service-id [customer customer-id]
 — no vprn service-id
 — subscriber-interface ip-int-name [create]
 — subscriber-interface ip-int-name [create] fwd-service service-id fwd-subscriber-
interface fwd-int-name
 — no subscriber-interface ip-int-name
 — address {ip-address/mask | ip-address netmask} [gw-ip-address ip-
address] [populate-host-routes]
 — no address
 — [no] allow-unmatching-subnets
 — authentication-policy name
 — no authentication-policy
 — delayed-enable seconds [init-only]
 — no delayed-enable
 — description description-string
 — no description
 — dhcp
 — client-applications {[dhcp] [pppoe]}
 — no client-applications
 — description description-string
 — no description
 — gi-address ip-address [src-ip-addr]
 — no gi-address
 — lease-populate [nbr-of-entries]
 — no lease-populate
 — [no] option
 — [no] vendor-specific-option
 — [no] client-mac-address
 — [no] sap-id
 — [no] service-id
 — string text
 — no string
 — [no] system-id
 — python-policy name
 — no python-policy
 — proxy-server
 — emulated-server ip-address
 — no emulated-server
 — lease-time [days days] [hrs hours] [min minutes] [sec
seconds] [override]
 — no lease-time
 — [no] shutdown
 — relay-unicast-msg [release-update-src-ip]
 — no relay-unicast-msg
 — server server1 [server2...(up to 8 max)]
 — no server
 — [no] shutdown
 — [no] export-host-routes
 — [no] ipoe-linking
 — [no] gratuitous-rtr-adv
 — [no] ipoe-session

```

- **session-limit** *session-limit*
- **ipv6**
  - **address** *ipv6-address/prefix-length* [**pd**] [**wan-host**] [**track-srrp** *srrp-instance*] [**holdup-time** *milli-seconds*]
  - **no address** *ipv6-address/prefix-length*
  - [**no**] **allow-unmatching-prefixes**
  - [**no**] **auto-reply**
    - [**no**] **neighbor-solicitation**
    - [**no**] **router-solicitation**
  - **default-dns** *ipv6-address* [**secondary** *ipv6-address*]
  - **no default-dns**
  - **delegated-prefix-length** *bits*
  - **delegated-prefix-length** *variable*
  - **no delegated-prefix-length**
  - **link-local-address** *ipv6-address*
  - **no link-local-address**
  - **subscriber-prefixes**
    - **prefix** *ipv6-address/prefix-length* [**pd**] [**wan-host**] **track-srrp** *srrp-instance* [**holdup-time** *milli-seconds*]
    - **no prefix** *ipv6-address/prefix-length*
    - **prefix** *ipv6-address/prefix-length* [**pd**] [**wan-host**]
  - [**no**] **allow-multiple-wan-addresses**
  - [**no**] **dhcp6**
    - **filter** *filter-id*
    - **no filter**
    - [**no**] **override-slaac**
    - **pd-managed-route** [**next-hop** {**ipv4** | **ipv6**}]
    - **no pd-managed-route**
    - [**no**] **proxy-server**
      - **client-applications** [**dhcp**] [**ppp**]
      - **no client-applications**
      - **preferred-lifetime** [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
      - **preferred-lifetime** **infinite**
      - **no preferred-lifetime**
      - **valid-lifetime** [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
      - **valid-lifetime** **infinite**
      - **no valid-lifetime**
      - **rebind-timer** [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
      - **no rebind-timer**
      - **renew-timer** [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
      - **no renew-timer**
      - **server-id** **duid-en** **hex** *hex-string*
      - **server-id** **duid-en** **string** *ascii-string*
      - **server-id** **duid-ll**
      - **no server-id**
      - **no shutdown**
      - **python-policy** *name*
      - **no python-policy**
        - [**no**] **relay**
      - **description** *description-string*
      - **no description**

- **source-address** *ipv6-address*
- **no source-address**
- **link-address** *ipv6-address*
- **no link-address**
- **server** *ipv6-address* [*ipv6-address...*(upto 8 max)]
- **no server**
- **client-applications** [**dhcp**] [**ppp**]
- **no client-applications**
- [**no**] **shutdown**
- [**no**] **ipoe-bridged-mode**
- [**no**] **router-advertisements**
- **current-hop-limit** *limit*
- **no current-hop-limit**
- [**no**] **dns-options**
  - [**no**] **include-dns**
  - **rdnss-lifetime** *seconds*
  - **rdnss-lifetime infinite**
  - **no rdnss-lifetime**
- **force-mcast** [**ip**] [**mac**]
- **no force-mcast**
- [**no**] **managed-configuration**
- **max-advertisement** *seconds*
- **no max-advertisement**
- **min-advertisement** *seconds*
- **no min-advertisement**
- **mtu** *bytes*
- **no mtu**
- [**no**] **other-stateful-configuration**
- [**no**] **prefix-options**
  - [**no**] **autonomous**
  - [**no**] **on-link**
  - **preferred-lifetime** *seconds*>
  - **preferred-lifetime infinite**
  - **no preferred-lifetime**
  - **valid-lifetime** *seconds*
  - **valid-lifetime infinite**
  - **no valid-lifetime**
- **reachable-time** *milli-seconds*
- **no reachable-time**
- **retransmit-time** *milli-seconds*
- **no retransmit-time**
- **router-lifetime** *seconds*
- **router-lifetime no-default-router**
- **no router-lifetime**
- [**no**] **shutdown**
- [**no**] **router-solicit**
- **inactivity-timer** [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
- **inactivity-timer infinite**
- **no inactivity-timer**
- **local-address-assignment**
  - **client-application** [**ppp-v4**]
  - **no client-application**
  - **default-pool** *pool-name* [**secondary** *pool-name*]
  - **no default-pool**

## Subscriber Management Service Commands

- **server** *server-name*
- **no server**
- **[no] shutdown**
- **[no] private-retail-subnets**
- **[no] shutdown**
- **unnumbered** [*ip-int-name*]*ip-address*
- **no unnumbered**



## VPRN Subscriber Interface, Group Interface Commands

```

config
 — service
 — vprn service-id [customer customer-id]
 — no vprn service-id
 — subscriber-interface ip-int-name [fwd-service service-id fwd-subscriber-interface
 ip-int-name] [create]
 — no subscriber-interface ip-int-name
 — group-interface ip-int-name [create]
 — group-interface ip-int-name [create] lms
 — group-interface ip-int-name [create] softgre
 — no group-interface ip-int-name
 — arp-host
 — host-limit max-num-hosts
 — no host-limit
 — min-auth-interval min-auth-interval
 — no min-auth-interval
 — sap-host-limit max-num-hosts-sap
 — no sap-host-limit
 — [no] shutdown
 — [no] arp-populate
 — arp-timeout seconds
 — no arp-timeout
 — authentication-policy name
 — no authentication-policy
 — diameter-application-policy policy-name
 — no diameter-application-policy
 — diameter-auth-policy name
 — no diameter-auth-policy
 — description description-string
 — no description
 — dhcp
 — client-applications {[dhcp] [pppoe]}
 — no client-applications
 — description description-string
 — no description
 — gi-address ip-address [src-ip-address]
 — no gi-address
 — lease-populate nbr-of-leases
 — no lease-populate
 — [no] match-circuit-id
 — [no] option
 — action {replace | drop | keep}
 — no action
 — circuit-id [ascii-tuple | ifindex | sap-id | vlan-ascii-tupl]
 — no circuit-id
 — remote-id [mac | string string]
 — no remote-id
 — [no] vendor-specific-option
 — [no] client-mac-address
 — [no] sap-id
 — [no] service-id
 — string text

```

- **no string**
- **[no] system-id**
- **proxy-server**
  - **emulated-server** *ip-address*
  - **no emulated-server**
  - **lease-time** [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*] [**override**]
  - **no lease-time**
  - **[no] shutdown**
  - **relay-unicast-msg** [*release-update-src-ip*]
  - **no relay-unicast-msg**
  - **server** *server1* [*server2...*(up to 8 max)]
  - **no server**
  - **[no] shutdown**
  - **[no] trusted**
- **diameter-application-policy** *policy-name*
- **no diameter-application-policy**
- **[no] enable-ingress-stats**
- **host-connectivity-verify** [**interval** *interval*] [**action** {**remove**|**alarm**}] [**timeout** *retry-timeout*] [**retry-count** *count*] [**family** *family*]
- **host-limit** *max-num-hosts*
- **no host-limit**
- **host-connectivity-verify** [**interval** *interval*] [**action** {**remove**|**alarm**}]
- **icmp**
  - **[no] mask-reply**
  - **redirects** [*number seconds*]
  - **no redirects**
  - **ttl-expired** *number seconds*
  - **no ttl-expired**
  - **unreachables** [*number seconds*]
  - **no unreachables**
- **ingress**
  - **policy-accounting** *template-name*
  - **no policy-accounting**
- **ip-mtu** *octets*
- **no ip-mtu**
- **ipoe-linking**
  - **[no] gratuitous-rtr-adv**
  - **[no] gratuitous-rtr-adv**
  - **[no] shutdown**
- **ipoe-session**
  - **description** *description-string*
  - **no description**
  - **force-auth** [**cid-change**] [**rid-change**]
  - **force-auth disabled**
  - **no force-auth**
  - **ipoe-session-policy** *policy-name*
  - **no ipoe-session-policy**
  - **min-auth-interval** [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
  - **min-auth-interval infinite**
  - **no min-auth-interval**
  - **sap-session-limit** *sap-session-limit*

- **no sap-session-limit**
- **session-limit** *session-limit*
- **no session-limit**
- **user-db** *local-user-db-name*
- **no user-db**
- **[no] shutdown**
- **[no] ipv6**
  - **allow-multiple-wan-addresses**
  - **no allow-multiple-wan-addresses**
  - **dns-options**
  - **no dns-options**
    - **include-dns**
    - **no include-dns**
    - **rdnss-lifetime** *seconds*
    - **rdnss-lifetime infinite**
    - **no rdnss-lifetime**
- **[no] ipoe-bridged-mode**
- **router-solicit**
  - **inactivity-timer** [*days days*] [*hrs hours*] [*min minutes*] [*sec seconds*]
  - **no inactivity-timer**
  - **min-auth-interval** [*days days*] [*hrs hours*] [*min minutes*] [*sec seconds*]
  - **no min-auth-interval**
  - **shutdown**
  - **no shutdown**
  - **user-db**
  - **no user-db**
- **local-address-assignment**
  - **client-application** [*ppp-v4*]
  - **no client-application**
  - **default-pool** *pool-name* [*secondary pool-name*]
  - **no default-pool**
  - **ipv6**
    - **client-application** [*ppp-slaac*] [*ipoe-wan*] [*ipoe-slaac*]
    - **no client-application**
    - **server** *server-name*
    - **no server**
    - **server** *server-name*
    - **no server**
    - **[no] shutdown**
- **[no] local-proxy-arp**
- **[no] mac** *ieee-address*
- **min-auth-interval** *min-auth-interval*
- **no min-auth-interval**
- **[no] oper-up-while-empty**
- **policy-control** *diameter-policy-name*
- **no policy-control**
- **sap-host-limit** *max-num-hosts-sap*
- **no sap-host-limit**
- **[no] shutdown**
- **[no] ppp**
  - **description** *description-string*
  - **no description**

- **policy** *ppp-policy-name*
- **no policy**
- **session-limit** *session-limit*
- **[no] shutdown**
- **user-db** *local-user-db-name*
- **no user-db**
- **[no] pppoe**
  - **anti-spoof** *pppoe-anti-spoofing-type*
  - **no anti-spoof**
  - **description** *description-string*
  - **no description**
  - **dhcp-client**
    - **[no] ccag-use-origin-sap**
  - **policy** *ppp-policy-name*
  - **no policy**
  - **sap-session-limit** *sap-session-limit*
  - **no sap-session-limit**
  - **session-limit** *session-limit*
  - **[no] shutdown**
  - **user-db** *local-user-db-name*
  - **no user-db**
- **[no] proxy-arp-policy** *policy-name [policy-name...(up to 5 max)]*
- **[no] qos-route-lookup**
- **redundant-interface** *red-ip-int-name*
- **no redundant-interface**
- **[no] remote-proxy-arp**
- **[no] sap** *sap-id*
  - **accounting-policy** *acct-policy-id*
  - **no accounting-policy** [*acct-policy-id*]
  - **anti-spoof** {**ip** | **ip-mac** | **nh-mac**}
  - **no anti-spoof**
  - **app-profile** *app-profile-name*
  - **no app-profile**
  - **atm**
    - **egress**
      - **traffic-desc** *traffic-desc-profile-id*
      - **no traffic-desc**
    - **encapsulation** *atm-encap-type*
    - **ingress**
      - **traffic-desc** *traffic-desc-profile-id*
    - **oam**
      - **[no] alarm-cells**
      - **[no] periodic-loopback**
  - **[no] calling-station-id**
  - **[no] collect-stats**
  - **default-host** *ipv4-prefix/mask | ipv6-prefix/prefix-length* **next-hop** *ipv4-address | ipv6-address*
  - **no default-host** *ipv4-prefix/mask | ipv6-prefix/prefix-length*
  - **cpu-protection** *policy-id* [**mac-monitoring**]
  - **no cpu-protection**
  - **default-host** *ip-address/mask* **next-hop** *next-hop-ip*
  - **no default-host** *ip-address/mask*
  - **description** *description-string*

- **no description**
- **diameter-application-policy** *policy-name*
- **no diameter-application-policy**
- **egress**
  - **[no] agg-rate**
    - **[no] limit-unused-bandwidth**
    - **[no] queue-frame-based-accounting**
    - **rate** {**max** | **rate**}
    - **no rate**
  - **filter ip** *ip-filter-id*
  - **filter ipv6** *ipv6-filter-id*
  - **no filter** [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]
  - **no filter**
  - **[no] qinq-mark-top-only**
  - **[no] qos** *policy-id*
  - **scheduler-policy** *scheduler-policy-name*
  - **no scheduler-policy**
- **host ip** *ip-address* [**mac** *ieee-address*] [**subscriber** *sub-ident-string*] [**sub-profile** *sub-profile-name*] [**sla-profile** *sla-profile-name*] [**ancp-string** *ancp-string*]
- **no host** {[**ip** *ip-address*] [**mac** *ieee-address*]}
- **no host all**
- **igmp-host-tracking**
  - **[no] disable-router-alert-check**
  - **expiry-time** *expiry-time*
  - **no expiry-time**
  - **import** *policy-name*
  - **no import**
  - **max-num-group** *max-num-groups*
  - **no max-num-group**
  - **max-num-sources** *max-num-sources*
  - **no max-num-sources**
  - **max-num-grp-sources** [1..32000]
  - **no max-num-grp-sources**
- **ingress**
  - **filter ip** *ip-filter-id*
  - **filter ipv6** *ipv6-filter-id*
  - **no filter** [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]
  - **no filter**
  - **match-qinq-dot1p** {**top**|**bottom**}
  - **no match-qinq-dot1p**
  - **qos** *policy-id* [**shared-queuing**]
  - **no qos** *policy-id*
  - **scheduler-policy** *scheduler-policy-name*
  - **no scheduler-policy**
- **multi-service-site** *customer-site-name*
- **no multi-service-site**
- **static-host ip** *ip/did-address* [**mac** *ieee-address*] [**create**]
- **no static-host** [**ip** *ip-address*] **mac** *ieee-address*
- **no static-host all** [**force**]
- **no static-host ip** *ip-address*
  - **ancp-string** *ancp-string*
  - **no ancp-string**
  - **app-profile** *app-profile-name*

- **no app-profile**
- **inter-dest-id** *intermediate-destination-id*
- **no inter-dest-id**
- **managed-routes**
  - **route** {*ip-prefix/length* | *ip-prefix netmask*}
  - **[create]**
  - **no route** {*ip-prefix/length* | *ip-prefix netmask*}
- **retail-svc-id** *service-id*
- **no retail-svc-id**
- **rip-policy** *policy-name*
- **no rip-policy**
- **[no] shutdown**
- **sla-profile** *sla-profile-name*
- **no sla-profile**
- **sub-profile** *sub-profile-name*
- **no sub-profile**
- **subscriber** *sub-ident*
- **no subscriber**
- **[no] subscriber-sap-id**
- **static-host-mgmt**
  - **[no] mac-learning-options**
    - **[no] data-triggered**
    - **[no] single-mac**
- **[no] shutdown**
- **[no] sub-sla-mgmt**
  - **def-app-profile** *default-app-profile-name*
  - **no def-app-profile**
  - **def-sla-profile** *default-sla-profile-name*
  - **no def-sla-profile**
  - **def-sub-id** **string** *sub-ident-string*
  - **def-sub-id** **use-sap-id**
  - **no def-sub-id**
  - **def-sub-profile** *default-subscriber-profile-name*
  - **no def-sub-profile**
  - **multi-sub-sap** *subscriber-limit*
  - **no multi-sub-sap**
  - **[no] shutdown**
  - **single-sub-parameters**
    - **non-sub-traffic** *sub-profile sub-profile-name*  
*sla-profile sla-profile-name* [*subscriber sub-ident-string*]
    - **no non-sub-traffic**
    - **[no] profiled-traffic-only**
    - **sub-ident-policy** *sub-ident-policy-name*
    - **no sub-ident-policy**
- **[no] shutdown**
- **[no] srrp** *srrp-id*
  - **description** *description-string*
  - **no description**
  - **gw-mac** *mac-address*
  - **no gw-mac**
  - **keep-alive-interval** *interval*
  - **no keep-alive-interval**
  - **message-path** *sap-id*
  - **no message-path**

- [no] **policy** *vrrp-policy-id*
- **priority** *priority*
- **no priority**
- [no] **shutdown**
- **srrp-enabled-routing** [**hold-time** *hold-time*]
- **no srrp-enabled-routing**
- **tos-marking-state** {**trusted** | **untrusted**}
- **no tos-marking-state**
- [no] **urpf-check**
- **wpp**
  - [no] **enable-triggered-hosts**
  - **initial-app-profile** *app-profile-name*
  - **no initial-app-profile**
  - **initial-sla-profile** *sla-profile-name*
  - **no initial-sla-profile**
  - **initial-sub-profile** *sub-profile-name*
  - **no initial-sub-profile**
  - **lease-time** [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
  - **no lease-time**
  - **portal router** *router-instance* **name** *wpp-portal-name*
  - **no portal**
  - **restore-disconnected** {**restore**|**no-restore**}
  - **no restore-disconnected**
  - **user-db** *local-user-db-name*
  - **no user-db**

## IES Subscriber Management Configuration Commands

- IES Interface Commands on page 1114
- IES Subscriber Interface Commands on page 1116
- IES Subscriber Interface Group Interface Commands on page 1119

```

config
 — service
 — ies service-id [customer customer-id] [vpn vpn-id]
 — [no] interface ip-int-name
 — address {ip-address/mask | ip-address netmask} [gw-ip-address ip-address] [populate-host-routes]
 — no address
 — [no] allow-directed-broadcast
 — [no] arp-populate
 — arp-timeout seconds
 — no arp-timeout
 — cflowd [acl | interface]
 — no cflowd
 — description description-string
 — no description
 — dhcp
 — client-applications {[dhcp] [pppoe]}
 — no client-applications
 — description description-string
 — no description
 — gi-address ip-address [src-ip-addr]
 — no gi-address
 — lease-populate nbr-of-leases
 — no lease-populate
 — [no] option
 — action {replace | drop | keep}
 — no action
 — circuit-id [ascii-tuple | ifindex | sap-id]
 — no circuit-id
 — [no] remote-id
 — [no] relay-plain-bootp
 — relay-unicast-msg [release-update-src-ip]
 — no relay-unicast-msg
 — server server1 [server2...(up to 8 max)]
 — no server
 — [no] shutdown
 — [no] trusted
 — host-connectivity-verify [source {vrrp|interface}] [interval interval]
 [action {remove | alarm}]
 — icmp
 — [no] mask-reply
 — redirects [number seconds]
 — no redirects
 — ttl-expired number seconds]
 — no ttl-expired
 — unreachables [number seconds]

```



- **no unreachable**
- **[no] local-proxy-arp**
- **[no] loopback**
- **[no] mac** *ieee-address*
- **[no] proxy-arp-policy** *policy-name* [*policy-name...*(up to 5 max)]
- **[no] remote-proxy-arp**
- **[no] sap** *sap-id*

|

## IES Subscriber Interface Commands

```

config
 — service
 — ies service-id [customer customer-id] [vpn vpn-id]
 — subscriber-interface ip-int-name [create]
 — subscriber-interface ip-int-name [create] fwd-service service-id fwd-subscriber-interface fwd-int-name
 — no subscriber-interface ip-int-name
 — [no] address {ip-address/mask | ip-address netmask}
 — [no] allow-unmatching-subnets
 — delayed-enable seconds [init-only]
 — no delayed-enable
 — description description-string
 — no description
 — [no] export-host-routes
 — dhcp
 — gi-address ip-address [src-ip-addr]
 — no gi-address
 — relay-unicast-msg [release-update-src-ip]
 — no relay-unicast-msg
 — ipoe-linking
 — [no] gratuitous-rtr-adv
 — [no] gratuitous-rtr-adv
 — [no] shutdown
 — [no] ipoe-session
 — session-limit session-limit
 — no session-limit
 — ipv6
 — [no] allow-unmatching-subnets
 — [no] allow-unmatching-prefixes
 — default-dns ipv6-address [secondary ipv6-address]
 — no default-dns
 — [no] allow-unmatching-prefixes
 — default-dns ipv6-address [secondary ipv6-address]
 — no default-dns
 — delegated-prefix-length bits
 — delegated-prefix-length variable
 — no delegated-prefix-length
 — link-local-address ipv6-address
 — no link-local-address
 — subscriber-prefixes
 — prefix ipv6-address/prefix-length [pd] [wan-host]
 track-srrp srrp-instance [holdup-time milli-seconds]
 — no prefix ipv6-address/prefix-length
 — prefix ipv6-address/prefix-length [pd] [wan-host]
 — [no] allow-multiple-wan-addresses
 — [no] dhcp6
 — [no] override-slaac
 — pd-managed-route [next-hop {ipv4 | ipv6}]
 — no pd-managed-route
 — [no] proxy-server
 — client-applications [dhcp] [ppp]
 — no client-applications

```

- **preferred-lifetime** [*days days*] [*hrs hours*] [*min minutes*] [*sec seconds*]
- **preferred-lifetime infinite**
- **no preferred-lifetime**
- **valid-lifetime** [*days days*] [*hrs hours*] [*min minutes*] [*sec seconds*]
- **valid-lifetime infinite**
- **no valid-lifetime**
- **rebind-timer** [*days days*] [*hrs hours*] [*min minutes*] [*sec seconds*]
- **no rebind-timer**
- **renew-timer** [*days days*] [*hrs hours*] [*min minutes*] [*sec seconds*]
- **no renew-timer**
- **server-id duid-en hex** *hex-string*
- **server-id duid-en string** *ascii-string*
- **server-id duid-ll**
- **no server-id**
- **no shutdown**
- **python-policy** *name*
- **no python-policy**
  - **[no] relay**
- **description** *description-string*
- **no description**
  - **source-address** *ipv6-address*
  - **no source-address**
  - **link-address** *ipv6-address*
  - **no link-address**
- **server** *ipv6-address* [*ipv6-address...*(upto 8 max)]
- **no server**
- **client-applications** [*dhcp*] [*ppp*]
- **no client-applications**
- **[no] shutdown**
- **[no] ipoe-bridged-mode**
- **[no] router-advertisements**
  - **current-hop-limit** *limit*
  - **no current-hop-limit**
- **[no] dns-options**
  - **[no] include-dns**
  - **rdnss-lifetime** *seconds*
  - **rdnss-lifetime infinite**
  - **no rdnss-lifetime**
- **force-mcast** [*ip*] [*mac*]
- **no force-mcast**
- **[no] managed-configuration**
- **max-advertisement** *seconds*
- **no max-advertisement**
- **min-advertisement** *seconds*
- **no min-advertisement**
- **mtu** *bytes*
- **no mtu**
- **[no] other-stateful-configuration**
- **[no] prefix-options**
  - **[no] autonomous**
  - **[no] on-link**

- **preferred-lifetime** *seconds*>
- **preferred-lifetime** **infinite**
- **no preferred-lifetime**
- **valid-lifetime** *seconds*
- **valid-lifetime** **infinite**
- **no valid-lifetime**
- **reachable-time** *milli-seconds*
- **no reachable-time**
- **retransmit-time** *milli-seconds*
- **no retransmit-time**
- **router-lifetime** *seconds*
- **router-lifetime** **no-default-router**
- **no router-lifetime**
- **[no] shutdown**
- **[no] router-solicit**
- **inactivity-timer** [*days days*] [*hrs hours*] [*min minutes*] [*sec seconds*]
- **inactivity-timer** **infinite**
- **no inactivity-timer**
- **local-address-assignment**
  - **client-application** [*ppp-v4*]
  - **no client-application**
  - **default-pool** *pool-name* [*secondary pool-name*]
  - **no default-pool**
  - **server** *server-name*
  - **no server**
  - **[no] shutdown**
  - **ipv6**
    - **client-application** [*ppp-slaac*] [*ipoe-wan*] [*ipoe-slaac*]

## IES Subscriber Interface Group Interface Commands

```

config
 — service
 — ies service-id [customer customer-id] [vpn vpn-id]
 — [no] subscriber-interface ip-int-name
 — [no] group-interface ip-int-name
 — arp-host
 — host-limit max-num-hosts
 — no host-limit
 — min-auth-interval min-auth-interval
 — no min-auth-interval
 — sap-host-limit max-num-hosts-sap
 — no sap-host-limit
 — [no] shutdown
 — [no] arp-populate
 — arp-timeout seconds
 — no arp-timeout
 — authentication-policy name
 — no authentication-policy
 — description description-string
 — no description
 — dhcp
 — client-applications dhcp
 — description description-string
 — no description
 — filter filter-id
 — no filter
 — gi-address ip-address [src-ip-addr]
 — no gi-address
 — lease-populate nbr-of-leases
 — no lease-populate
 — [no] match-circuit-id
 — option
 — action {replace | drop | keep}
 — no action
 — circuit-id [ascii-tuple | ifindex | sap-id]
 — no circuit-id
 — [no] remote-id
 — [no] vendor-specific-option
 — [no] client-mac-address
 — [no] sap-id
 — [no] service-id
 — string text
 — no string
 — [no] system-id
 — relay-unicast-msg [release-update-src-ip]
 — no relay-unicast-msg
 — server server1 [server2...(up to 8 max)]
 — no server
 — [no] shutdown
 — [no] trusted
 — diameter-application-policy policy-name
 — no diameter-application-policy
 — diameter-auth-policy name

```

- **no diameter-auth-policy**
- **host-connectivity-verify** [*interval interval*] [**action** {**remove** | **alarm**}]
- **icmp**
  - [**no**] **mask-reply**
  - **redirects** [*number seconds*]
  - **no redirects**
  - **ttl-expired** *number seconds*
  - **no ttl-expired**
  - **unreachables** [*number seconds*]
  - **no unreachables**
- **ip-mtu** *octets*
- **no ip-mtu**
- **ipoe-linking**
  - [**no**] **gratuitous-rtr-adv**
  - [**no**] **gratuitous-rtr-adv**
  - [**no**] **shutdown**
- **ipoe-session**
  - **description** *description-string*
  - **no description**
  - **force-auth** [**cid-change**] [**rid-change**]
  - **force-auth disabled**
  - **no force-auth**
  - **ipoe-session-policy** *policy-name*
  - **no ipoe-session-policy**
  - **min-auth-interval** [**days** *days*] [**hrs** *hours*] [**min** *minutes*] [**sec** *seconds*]
  - **min-auth-interval infinite**
  - **no min-auth-interval**
  - **sap-session-limit** *sap-session-limit*
  - **no sap-session-limit**
  - **session-limit** *session-limit*
  - **no session-limit**
  - **user-db** *local-user-db-name*
  - **no user-db**
  - [**no**] **shutdown**
- **ipv6**
  - [**no**] **auto-reply**
  - [**no**] **neighbor-solicitation**
  - [**no**] **router-solicitation**
- **local-address-assignment**
  - **client-application** [**ppp-v4**]
  - **no client-application**
  - **default-pool** *pool-name* [**secondary** *pool-name*]
  - **no default-pool**
  - [**no**] **ipv6**
    - **client-application** [**ppp-v4**]
    - **no client-application**
    - **server** *server-name*
    - **no server**
    - **server** *server-name*
    - **no server**
    - [**no**] **shutdown**
- [**no**] **local-proxy-arp**
- [**no**] **loopback**

- [no] **mac** *ieee-address*
- [no] **oper-up-while-empty**
- [no] **pppoe**
  - **description** *description-string*
  - **no description**
  - **ppp-policy** *pppoe-policy-name*
  - **no ppp-policy**
  - **sap-session-limit** *sap-session-limit*
  - **no sap-session-limit**
  - **session-limit** *session-limit*
  - **no session-limit**
  - [no] **shutdown**
- [no] **proxy-arp-policy** *policy-name* [*policy-name...*(up to 5 max)]
- [no] **remote-proxy-arp**
- **router-advertisement**
  - **ipv6**
    - **dns-options**
    - **no dns-options**
      - **include-dns**
      - **no include-dns**
    - **rdnss-lifetime** *seconds*
    - **rdnss-lifetime infinite**
    - **no rdnss-lifetime**
- [no] **sap** *sap-id*
  - **accounting-policy** *acct-policy-id*
  - **no accounting-policy** [*acct-policy-id*]
  - **anti-spoof** {**ip** | **ip-mac** | **nh-mac**}
  - **no anti-spoof**
  - **atm**
    - **egress**
      - **traffic-desc** *traffic-desc-profile-id*
      - **no traffic-desc**
    - **encapsulation** *atm-encap-type*
    - **ingress**
      - **traffic-desc** *traffic-desc-profile-id*
    - **oam**
      - [no] **alarm-cells**
      - [no] **periodic-loopback**
  - [no] **calling-station-id**
  - [no] **collect-stats**
  - **cpu-protection** [**mac-monitoring**] | [**eth-cfm-monitoring** [**aggregate**][**car**]]
  - **no cpu-protection**
  - **default-host** *ip-address/mask* **next-hop** *next-hop-ip*
  - **no default-host** *ip-address/mask*
  - **description** *description-string*
  - **no description**
  - **egress**
    - [no] **agg-rate**
      - [no] **limit-unused-bandwidth**
      - [no] **queue-frame-based-accounting**
      - **rate** {**max** | **rate**}
      - **no rate**
    - **filter ip** *ip-filter-id*

- **filter**
- **no filter ip** *ip-filter-id*
- **no filter**
- **qos** *policy-id*
- **no qos**
- **[no] queue-override**
  - **[no] queue** *queue-id*
    - **adaptation-rule** [*pir* {*max* | *min* | *closest*}] [*cir* {*max* | *min* | *closest*}]
    - **no adaptation-rule**
    - **avg-frame-overhead** *percentage*
    - **no avg-frame-overhead**
    - **cbs** *size-in-kbytes*
    - **no cbs**
    - **high-prio-only** *percent*
    - **no high-prio-only**
    - **mbs** {*size-in-kbytes* | *default*}
    - **no mbs**
    - **rate** *pir-rate* [*cir cir-rate*]
    - **no rate**
- **scheduler-policy** *scheduler-policy-name*
- **no scheduler-policy**
- **host ip** *ip-address* [**mac** *ieee-address*] [**subscriber** *sub-ident-string*] [**sub-profile** *sub-profile-name*] [**sla-profile** *sla-profile-name*]
- **no host** {[**ip** *ip-address*] [**mac** *ieee-address*]}
- **no host all**
- **ingress**
  - **filter ip** *ip-filter-id*
  - **no filter**
  - **match-qinq-dot1p** {*top*|*bottom*}
  - **no match-qinq-dot1p**
  - **qos** *policy-id* [*shared-queuing*]
  - **no qos**
  - **scheduler-policy** *scheduler-policy-name*
  - **no scheduler-policy**
- **[no] multi-service-site** *customer-site-name*
- **static-host ip** *ip/did-address* [**mac** *ieee-address*] [**create**]
- **static-host mac** *ieee-address* [**create**]
- **no static-host** [**ip** *ip-address*] [**mac** *ieee-address*]
- **no static-host all** [**force**]
- **no static-host ip** *ip-address*
  - **ancp-string** *ancp-string*
  - **no ancp-string**
  - **app-profile** *app-profile-name*
  - **no app-profile**
  - **inter-dest-id** *intermediate-destination-id*
  - **no inter-dest-id**
- **managed-routes**
  - **[no] route** {*ip-prefix/length*|*ip-prefix net-mask*}
  - **[no] route** *ipv6-prefix/prefix-length* [**metric** *metric-value*]
- **rip-policy** *policy-name*



- **no rip-policy**
- **[no] shutdown**
- **sla-profile** *sla-profile-name*
- **no sla-profile**
- **sub-profile** *sub-profile-name*
- **no sub-profile**
- **subscriber** *sub-ident*
- **no subscriber**
- **[no] subscriber-sap-id**
- **[no] shutdown**
- **[no] sub-sla-mgmt**
  - **[no] sub-sla-mgmt**
  - **def-app-profile** *default-app-profile-name*
  - **no def-app-profile**
  - **def-sla-profile** *default-sla-profile-name*
  - **no def-sla-profile**
  - **def-sub-id** **string** *sub-ident-string*
  - **def-sub-id** **use-sap-id**
  - **no def-sub-id**
  - **def-sub-profile** *default-subscriber-profile-name*
  - **no def-sub-profile**
  - **multi-sub-sap** *subscriber-limit*
  - **no multi-sub-sap**
  - **[no] shutdown**
  - **single-sub-parameters**
    - **non-sub-traffic** **sub-profile** *sub-profile-name* **sla-profile** *sla-profile-name* [**subscriber** *sub-ident-string*]
    - **no non-sub-traffic**
    - **[no] profiled-traffic-only**
    - **sub-ident-policy** *sub-ident-policy-name*
    - **no sub-ident-policy**
- **[no] shutdown**
- **[no] srrp** *srrp-id*
  - **bfd-enable**
  - **description** *description-string*
  - **no description**
  - **gw-mac** *mac-address*
  - **no gw-mac**
  - **keep-alive-interval** *interval*
  - **no keep-alive-interval**
  - **message-path** *sap-id*
  - **no message-path**
  - **[no] policy** *vrrp-policy-id*
  - **priority** *priority*
  - **no priority**
  - **[no] shutdown**
- **srrp-enabled-routing** [**hold-time** *hold-time*]
- **no srrp-enabled-routing**
- **tos-marking-state** {**trusted** | **untrusted**}
- **no tos-marking-state**
- **[no] urpf-check**
- **wpp**
  - **[no] enable-triggered-hosts**
  - **initial-app-profile** *app-profile-name*

- **no initial-app-profile**
- **initial-sla-profile** *sla-profile-name*
- **no initial-sla-profile**
- **initial-sub-profile** *sub-profile-name*
- **no initial-sub-profile**
- **lease-time** [*days days*] [*hrs hours*] [*min minutes*] [*sec seconds*]
- **no lease-time**
- **portal router** *router-instance name wpp-portal-name*
- **no portal**
- **restore-disconnected** {*restore|no-restore*}
- **no restore-disconnected**
- **user-db** *local-user-db-name*
- **no user-db**

## Service Subscriber Interface, Group Interface IPoE Commands

- ```

config
  — service
    — vprn service-id [customer customer-id]
    — no vprn service-id
    — ies service-id [customer customer-id]
    — no ies service-id
      — subscriber-interface ip-int-name [fwd-service service-id fwd-subscriber-inter-
face ip-int-name] [create]
      — no subscriber-interface ip-int-name
        — group-interface ip-int-name [create]
        — group-interface ip-int-name [create] lms
        — group-interface ip-int-name [create] softgre
        — no group-interface ip-int-name
          — [no] ipoe-session
            — description description-string
            — no description
            — force-auth [cid-change] [rid-change]
            — force-auth disabled
            — no force-auth
            — ipoe-session-policy policy-name
            — no ipoe-session-policy
            — min-auth-interval [days days] [hrs hours] [min min-
utes] [sec seconds]
            — min-auth-interval infinite
            — no min-auth-interval
            — sap-session-limit sap-session-limit
            — no sap-session-limit
            — session-limit session-limit
            — no session-limit
            — [no] shutdown
            — user-db local-user-db-name
            — no user-db

```

RIP Commands

```

configure
  — subscriber-mgmt
    — rip-policy policy policy-name [create]
    — no rip-policy policy-name
      — authentication-key authentication-key|hash-key [hash|hash2]
      — no authentication-key
      — authentication-type {none|password|message-digest|message-digest-20}
      — no authentication-type
      — description description-string
      — no description
    — local-user-db local-user-db-name [create]
    — no local-user-db local-user-db-name
      — ppp
        — host host-name [create]
        — no host host-name
          — rip-policy policy-name
          — no rip-policy
      — ipoe
        — host host-name [create]
        — no host host-name
          — rip-policy policy-name
          — no rip-policy

configure
  — service
    — ies|vprn
      — [no] subscriber-interface ip-int-name
        — [no] group-interface ip-int-name
          — [no] sap sap-id
            — static-host ip ip/did-address [mac ieee-address] [create]
            — static-host mac ieee-address [create]
            — no static-host [ip ip-address] mac ieee-address
            — no static-host all [force]
            — no static-host ip ip-address
            — rip-policy policy-name
            — no rip-policy
      — vprn
        — [no] rip
          — [no] group name
          — [no] neighbor ip-int-name

configure
  — router
    — [no] rip
      — [no] group name
      — [no] neighbor ip-int-name

```

VPort Commands

Refer to the SR OS Interfaces Guide for further information on card, Media Dependent Adapter (MDA), MCM (MDA Carrier Module), CMA (Compact Media Adapter) and port provisioning.

```

config
  — port port-id
    — ethernet
      — access
        — egress
          — vport vport-name [create]
          — no vport vport-name
            — agg-rate
              — rate {max | rate}
            — agg-rate-limit limit
            — no agg-rate-limit
            — description description-string
            — no description
            — [no] egress-rate-modify
            — host-match dest string [create]
            — no host-match dest string
            — port-scheduler-policy port-scheduling-policy-name
            — no port-scheduler-policy
            — scheduler-policy scheduler-policy-name
            — no scheduler-policy

```

Redundant Interface Commands

```

config
  — service
    — ies
      — [no] redundant-interface ip-int-name
        — address {ip-address/mask | ip-address netmask} [remote-ip ip-address]
        — no address
        — [no] description description-string
        — [no] shutdown
        — [no] spoke-sdp sdp-id:vc-id
          — egress
            — filter [ip ip-filter-id]
            — vc-label ingress-vc-label
            — no vc-label [ingress-vc-label]
          — ingress
            — filter [ip ip-filter-id]
            — no filter
            — vc-label ingress-vc-label
            — no vc-label [ingress-vc-label]
          — [no] shutdown

config
  — service
    — vprn
      — [no] redundant-interface ip-int-name
        — address {ip-address/mask | ip-address netmask} [remote-ip ip-address]
        — no address
        — [no] description description-string
        — [no] shutdown
        — [no] spoke-sdp sdp-id:vc-id
          — egress
            — filter [ip ip-filter-id]
            — vc-label ingress-vc-label
            — no vc-label [ingress-vc-label]
          — ingress
            — filter [ip ip-filter-id]
            — no filter
            — vc-label ingress-vc-label
            — no vc-label [ingress-vc-label]
          — [no] shutdown

config
  — service
    — sdp sdp-id [gre | mpls]
    — no sdp sdp-id
      — binding
        — port [port-id | lag-id]
        — no port
        — pw-port pw-port-id [vc-id vc-id] [create]
        — no pw-port pw-port-id
          — description description-string
          — no description
          — egress

```

- **shaper**
 - **int-dest-id** *int-dest-id*
 - **no int-dest-id** *int-dest-id*
 - **vport** *vport-name*
 - **no vport** *vport-name*
- **encap-type** {*dot1q|qinq*}
- **no encap-type**
- [**no**] **shutdown**
- **vc-type** {*ether | vlan*}
- **no vc-type**
- **vlan-vc-tag** *vlan-id*
- **no vlan-vc-tag**

config

- **service**
 - **ies** *service-id* [**customer** *customer-id*] [**vprn** *vprn-id*]
 - **vprn** *service-id* [**customer** *customer-id*]
 - **no vprn** *service-id*
 - **interface** *ip-int-name* [**create**] [**tunnel**]
 - **no interface** *ip-int-name*
 - [**no**] **ipv6**
 - [**no**] **urpf-check**
 - **mode** {*strict | loose | strict-no-ecmp*}
 - **no mode**
 - [**no**] **subscriber-interface** *ip-int-name*
 - **group-interface** *ip-int-name* [**create**]
 - **group-interface** *ip-int-name* [**create**] **lms**
 - **group-interface** *ip-int-name* [**create**] **softgre**
 - **no group-interface** *ip-int-name*
 - [**no**] **ipv6**
 - [**no**] **urpf-check**
 - **mode** {*strict | loose | strict-no-ecmp*}
 - **no mode**

Wireless Portal Protocol (WPP) Commands

```

config
  — router
    — wpp
      — portals
        — portal wpp-portal-name address ip-address [create]
        — portal wpp-portal-name
        — no portal wpp-portal-name
          — [no] shutdown
        — [no] shutdown

config
  — service
    — vprn service-id [customer customer-id]
    — no vprn service-id
      — wpp
        — portals
          — portal wpp-portal-name address ip-address [create]
          — portal wpp-portal-name
          — no portal wpp-portal-name
            — [no] shutdown
        — [no] shutdown

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id]
    — vprn service-id [customer customer-id]
    — no vprn service-id
      — [no] subscriber-interface ip-int-name
        — group-interface ip-int-name [create]
        — no group-interface ip-int-name
          — wpp
            — [no] enable-triggered-hosts
            — initial-app-profile app-profile-name
            — no initial-app-profile
            — initial-sla-profile sla-profile-name
            — no initial-sla-profile
            — initial-sub-profile sub-profile-name
            — no initial-sub-profile
            — lease-time [days days] [hrs hours] [min minutes] [sec
seconds]
            — no lease-time
            — portal router router-instance name wpp-portal-name
            — no portal
            — restore-disconnected {restore|no-restore}
            — no restore-disconnected
            — [no] shutdown
            — user-db local-user-db-name
            — no user-db
            — [no] shutdown

```

Subscriber Management Service Commands

```
config
— subscriber-mgmt
  — local-user-db local-user-db-name [create]
  — no local-user-db local-user-db-name
    — dhcp
      — host host-name [create]
      — no host host-name
        — wpp
          — initial-app-profile app-profile-name
          — no initial-app-profile
          — initial-sla-profile sla-profile-name
          — no initial-sla-profile
          — initial-sub-profile sub-profile-name
          — no initial-sub-profile
          — lease-time [days days] [hrs hours] [min minutes] [sec
            seconds]
          — no lease-time
          — portal router router-instance name wpp-portal-name
          — no portal
          — restore-disconnected {restore|no-restore}
          — no restore-disconnected
```


Multiple PPOE Session QoS Commands

```

config
  — qos
    — sap-egress policy-id
      — parent-location {default | sla}
      — no parent-location

    — scheduler-policy name [create]
      — tier 1
        — parent-location {none | sub | vport}
        — no parent-location

config
  — port
    — ethernet
      — access
        — egress
          — vport name
            — scheduler-policy scheduler-policy-name

config
  — subscr-mgmt
    — sla-prof
      — egress$
        — scheduler-policy scheduler-policy-name
          — scheduler scheduler-name rate pir-rate [cir cir-rate]

configure
  — subscriber-mgmt
    — authentication-policy name
      — include-radius-attribute
        — [no] sap-session-index

```

Multicast Listener Discovery (MLD) Commands

For more information about MLD commands, refer to the SR OS Routing Protocols Guide.

```

config
  — subscr-mgmt
    — mld-policy mld-policy-name [create]
    — no mld-policy mld-policy-name
      — description description-string
      — no description
      — egress-rate-modify agg-rate-limit
      — egress-rate-modify scheduler scheduler-name
      — no egress-rate-modify
      — [no] fast-leave
      — import policy-name
      — no import
      — max-num-groups max-num-groups
      — no max-num-groups
      — max-num-grp-sources [1..32000]
      — no max-num-grp-sources
      — max-num-sources max-num-sources
      — no max-num-sources
      — [no] per-host-replication
      — redirection-policy policy-name
      — no redirection-policy
      — static
        — [no] group grp-ipv6-address
          — [no] source ipv6-address
          — [no] starg
      — version version
      — no version

```

Show Commands

show

— **aaa**

- **isa-radius-policy** *policy-name*
- **isa-radius-policy** *policy-name* **associations**
- **radius-configuration**
- **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**]

show

— **pw-port**

- **pw-port** [*pw-port-id*] [**detail**]
- **pw-port** **sdp** [*sdp-id*]
- **pw-port** **sdp** **none**

show

— **qos**

- **port-scheduler-policy** [*port-scheduler-policy-name*] [**association**]
- **port-scheduler-policy** *port-scheduler-policy-name* **network-policy** *network-queue-policy-name*
- **port-scheduler-policy** *port-scheduler-policy-name* **sap-egress** *policy-id*
- **port-scheduler-policy** *port-scheduler-policy-name* **scheduler-policy** *scheduler-policy-name*
- **port-scheduler-policy** *port-scheduler-policy-name* **scheduler-policy** *scheduler-policy-name* **sap-egress** *policy-id*
- **sap-egress** [*policy-id*] [**association|detail**]
- **sap-ingress** [*policy-id*] [**association | match-criteria | detail**]
- **scheduler-hierarchy**
 - **customer** *customer-id* **site** *customer-site-name* [**scheduler** *scheduler-name*] [**ingress|egress**] [**detail**]
 - **port** *port-id* **vport** *name* [**scheduler** *scheduler-name*] [**detail**]
 - **sap** *sap-id* [**scheduler** *scheduler-name*] [**ingress|egress**] [**detail**]
 - **subscriber** *sub-ident-string* [**scheduler** *scheduler-name*] [**ingress|egress**] [**detail**]
 - **subscriber** *sub-ident-string* **sla-profile** *sla-profile-name* **sap** *sap-id* [**scheduler** *scheduler-name*] [**detail**]
- **scheduler-name** *scheduler-name*
- **scheduler-policy** [*scheduler-policy-name*] [**association|sap-ingress** *policy-id* **sap-egress** *policy-id*]
- **scheduler-stats**
 - **customer** *customer-id* **site** *customer-site-name* [**scheduler** *scheduler-name*] [**ingress|egress**] [**detail**]
 - **vport** *port-id* **vport** *name* [**scheduler** *scheduler-name*]
 - **sap** *sap-id* [**scheduler** *scheduler-name*] [**ingress|egress**] [**detail**]
 - **sla-profile** *sub-ident-string* **sla-profile** *sla-profile-name* **sap** *sap-id* [**scheduler** *scheduler-name*]
- **shared-queue** *shared-queue-policy-name* [**detail**]

- **mc-ring peer ip-address ring sync-tag ring-node** [*ring-*
- show
- **redundancy**
 - **multi-chassis all**
 - **multi-chassis mc-lag**
 - **multi-chassis sync**
 - **mc-ipsec addr** [**tunnel-group grp-id**]
 - **mc-ring peer ip-address statistics**
 - **mc-ring peer ip-address** [**ring sync-tag** [**detail | statistics**]]
 - **mc-ring peer ip-address ring sync-tag ring-node** [*node-name* [**detail | statistics**]]
 - **mc-ring global-statistics**
- show
- **router**
 - **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**
 - **wpp**
 - **wpp** [*portal wpp-portal-name*] [*host ip-address*] **hosts**
 - **wpp portal wpp-portal-name**
 - **wpp statistics**
- show
- **service**
 - **active-subscribers detail**
 - **active-subscribers mirror**
 - **active-subscribers** [**summary**]
 - **credit-control credit-control** [**subscriber sub-ident-string**]
 - **credit-control out-of-credit** [**action action**] [**summary**]
 - **filter** [**subscriber sub-ident-string**] [**origin origin**]
 - **hierarchy** [**subscriber sub-ident-string**]
 - **host-tracking** [**subscriber sub-ident-string**]
 - **host-tracking** [**subscriber sub-ident-string**] **detail**
 - **host-tracking** [**subscriber sub-ident-string**] **summary**
 - **host-tracking** [**subscriber sub-ident-string**] **statistics**
 - **groups** [**group group-ip-address**]
 - **groups group group-ip-address**] **detail**
 - **groups group group-ip-address**] **summary**
 - **igmp** [**subscriber sub-ident-string**][**detail**]
 - **pcc-rule** [**subscriber sub-ident-string**]
 - **subscriber sub-ident-string**
 - **subscriber sub-ident-string detail**
 - **subscriber sub-ident-string mirror**
 - **subscriber sub-ident-string sap sap-id sla-profile sla-profile-name**
 - **subscriber sub-ident-string sap sap-id sla-profile sla-profile-name detail**
 - **subscriber sub-ident-string sap sap-id sla-profile sla-profile-name mirror**
 - **id service-id**

- **arp-host** [wholesaler service-id] [sap sap-id | interface interface-name | ip-address ip-address[/mask] | mac ieee-address | {[port port-id] [no-inter-dest-id | inter-dest-id inter-dest-id]}] [detail]
- **arp-host statistics** [sap sap-id | interface interface-name]
- **arp-host summary** [interface interface-name]
- **authentication**
 - **statistics**
- **dhcp**
 - **lease-state** [wholesaler service-id] [sap sap-id | sdp sdp-id:vc-id | interface interface-name | ip-address ip-address[/mask] | chaddr ieee-address | mac ieee-address | {[port port-id] [no-inter-dest-id | inter-dest-id inter-dest-id]}] [detail]
 - **statistics** [sap sap-id] | [sdp [sdp-id[:vc-id]]]
 - **summary**
- **gsm**
 - **neighbors group** [name] [ip-address]
 - **sessions** [group name] neighbor ip-address [port port-number] [association] [statistics]
- **host** [sap sap-id] [wholesaler service-id] [port port-id] [inter-dest-id intermediate-destination-id] [detail]
- **host** [sap sap-id] [wholesaler service-id] [port port-id] no-inter-dest-id [detail]
- **host summary**
- **host** [detail] wholesaler service-id (VPRN only)
- **interface** [{ip-address|ip-int-name} [interface-type] [detail] [family]}summary]
- **ipoe session** [sap sap-id] [mac ieee-address] [circuit-id circuit-id] [remote-id remote-id] [interface ip-int-name|ip-address] [inter-dest-id intermediate-destination-id] [no-inter-dest-id] [ip-address ip-prefix[/prefix-length]] [port port-id] [subscriber sub-ident-string] [sap-session-id sap-session-index] [wholesaler service-id]
- **ipoe session** [sap sap-id] [mac ieee-address] [circuit-id circuit-id] [remote-id remote-id] [interface ip-int-name|ip-address] [inter-dest-id intermediate-destination-id] [no-inter-dest-id] [ip-address ip-prefix[/prefix-length]] [port port-id] [subscriber sub-ident-string] [sap-session-id sap-session-index] [wholesaler service-id] detail
- **retailers**
- **wholesalers**
- **subscriber-hosts** [sap sap-id] [ip ip-address[/mask]] [mac ieee-address] [sub-profile sub-profile-name] [sla-profile sla-profile-name] [detail]
- **sdp** sdp-id pw-port [pw-port-id]
- **sdp** sdp-id pw-port
- **sdp** sdp-id pw-port [pw-port-id] [statistics]
- **sdp** [consistent | inconsistent | na] egressifs
- **sdp** sdp-id keep-alive-history
- **sdp** far-end ip-address | ipv6-address keep-alive-history
- **sdp** [sdp-id] detail
- **sdp** far-end ip-address | ipv6-address detail
- **subscriber-using** [service-id service-id] [sap-id sap-id] [interface ip-int-name] [ip ip-address[/mask]] [mac ieee-address] [sub-profile sub-profile-name] [sla-profile sla-profile-name] [app-profile app-profile-name]

```

show
  — subscriber-mgmt
    — ancp-string [policy-name]
    — ancp-string policy-name association
    — ancp-string
    — ancp-string ancp-string
    — ancp-string customer customer-id site customer-site-name
    — ancp-string sap sap-id
    — authentication policy-name association
    — authentication [policy-name]
    — authentication [policy-name] statistics
    — authentication coa-statistics
    — diameter-application-policy [name]
    — diameter-session
      — ccrt-replay [session-id session-id] [diameter-application-policy name]
      — ccrt-replay summary
    — explicit-subscriber-map
    — host-lockout-policy
    — host-lockout-policy policy-name association
    — host-lockout-policy policy-name
    — host-lockout-policy policy-name all
    — host-lockout-policy policy-name sap sap-id [circuit-id | mac | remote-id]
    — igmp-policy
    — igmp-policy policy-name association
    — igmp-policy policy-name
    — ipoe-session-policy ipoe-session-policy-name association
    — ipoe-session-policy
    — local-user-db local-user-db-name association [dhcp] [ppp] [l2tp] [radius] [pppoe] [dhcp6]
    [capture-sap] [rtr-solicit] [wpp] [ipoe]
    — local-user-db local-user-db-name ipoe-host ipoe-host-name
    — local-user-db local-user-db-name ipoe-all-hosts
    — local-user-db local-user-db-name ipoe-unmatched-hosts
    — local-user-db [local-user-db-name]
    — local-user-db local-user-db-name ppp-all-hosts
    — local-user-db local-user-db-name ppp-host pppoe-host-name
    — local-user-db local-user-db-name ppp-unmatched-hosts
    — msap-policy [msap-policy-name [association]]
    — pcc-rule
    — pcc-rule monitoring-key key detail
    — pcc-rule rule-id id detail
    — pcc-rule rule-name rule-name
    — pcc-rule rule-name rule-name detail
    — pcc-rule summary
    — pcc-rule monitoring-key key
    — radius-accounting-policy name association
    — radius-accounting-policy [name]
    — radius-accounting-policy name statistics
    — sla-profile [sla-profile-name [association]]
    — statistics iom (slot | all) [host|session|subscriber|summary] [non-zero-value-only]
    — statistics mda (mda | all) [host|session|subscriber|summary] [non-zero-value-only]
    — statistics port (port-id | all) [host|session|subscriber|summary] [non-zero-value-only]
    — statistics pw-port (pw-port | all) [host|session|subscriber|summary] [non-zero-value-only]
    — statistics system [host|session|subscriber|summary] [non-zero-value-only]
    — sub-ident-policy [sub-ident-policy-name [association]]
    — sub-ident-policy sub-ident-policy-name script {primary | secondary | tertiary}
  
```

— **sub-profile** [*sub-profile-name* [association]]

Show Commands

Monitor Commands

```
monitor
  — service
    — subscriber sub-ident-string sap sap-id sla-profile sla-profile-name [base | ingress-queue-id
      ingress-queue-id | egress-queue-id egress-queue-id] [interval seconds] [repeat repeat] [absolute | rate]
```

Clear Commands

```
clear
  — subscriber-mgmt
    — ancp
      — ancp-sub-string string
    — authentication [policy-name]
    — authentication coa-statistics
    — diameter-session
      — crt-replay diameter-application-policy name
    — msap-policy msap-policy-name
    — peakvalue-stats iom (slot | all) [recursive]
    — peakvalue-stats mda (mda | all) [recursive]
    — peakvalue-stats port (port-id | all)
    — peakvalue-stats pw-port (pw-port | all)
    — peakvalue-stats system [recursive]
    — radius-accounting [policy-name]
  — service
    — id service-id
      — arp-host
      — arp-host { mac ieee-address | sap sap-id | ip-address ip-address[/mask] }
      — arp-host [port port-id] [inter-dest-id intermediate-destination-id | no-inter-dest-id]
      — arp-host statistics [sap sap-id | interface interface-name]
      — authentication
        — statistics
      — ipoe session [sap sap-id] [interface ip-int-name|ip-address] [mac ieee-address]
        [circuit-id circuit-id] [remote-id remote-id] [inter-dest-id intermediate-destination-id]
        [no-inter-dest-id] [ip-address ip-prefix[/prefix-length]] [port port-id] [subscriber
          sub-ident-string] [sap-session-id sap-session-index]
      — ipoe session all
      — msap msap-id
      — msap-policy msap-policy-name
    — statistics
      — subscriber sub-ident-string
    — qos
      — scheduler-stats
        — sla-profile sub-ident-string sla-profile sla-profile-name sap sap-id
          [scheduler scheduler-name]
  — router
    — srrp
      — interface subscriber-interface [id srrp-id]
      — statistics interface subscriber-interface [id srrp-id]
  — clear
```


- **aaa**
 - **route-downloader** *name* [**vprn** *vprn*] [**family** *family*]

Debug Commands

```
debug
  — [no] diameter
    — dest-realm realm
    — no dest-realm
    — detail-level level
    — diameter-peer peer [psm-events]
    — no diameter-peer
    — diameter-peer-policy policy
    — no diameter-peer-policy
    — message-type [ccr] [cca] [cer] [cea] [dwr] [dwa] [dpr] [dpa] [rar] [raa] [asr] [asa] [aar] [aaa]
    — message-type all
    — no message-type
    — origin-realm realm
    — no origin-realm
```

```
debug
  — service
    — id service-id
      — arp
      — [no] arp-host
      — one-time-http-redirection
      — [no] ppp
        — [no] circuit-id circuit-id
        — [no] event
          — dhcp-client [terminate-only]
          — no dhcp-client
          — l2tp [terminate-only]
          — no l2tp
          — local-address-assignment [terminate-only]
          — no local-address-assignment
          — ppp [terminate-only]
          — no ppp
        — [no] mac ieee-address
        — [no] msap msap-id
        — [no] packet
          — detail-level {low|medium|high}
          — no detail-level
          — [no] dhcp-client
          — discovery [padi] [pado] [padr] [pads] [padt]
          — no discovery
          — mode {dropped-only|ingr-and-dropped|egr-ingr-and-dropped}
          — no mode
          — ppp [lcp] [pap] [chap] [ipcp] [ipv6cp]
          — no ppp
        — [no] remote-id remote-id
        — [no] sap sap-id
        — [no] username username
    — subscriber-mgmt
```

- [no] **authentication** [policy *policy-name*] [mac-addr *ieee-address*] [circuit-id *circuit-id*]
- [no] **sub-ident-policy** *policy-name*
 - **script-all-info**
 - [no] **script-compile-error**
 - [no] **script-export-variables**
 - [no] **script-output**
 - [no] **script-output-on-error**
 - [no] **script-runtime-error**
- **router**
 - [no] **srrp**
 - [no] **events** [interface *ip-int-name*]
 - [no] **packets** [interface *ip-int-name*]
 - [no] **radius**
 - **detail-level** {low|medium|high}
 - **no detail-level**
 - **packet-type** [authentication] [accounting] [coa]
 - **no packet-type**
 - **radius-attr** type *attribute-type* [transaction]
 - **radius-attr** type *attribute-type* [transaction] {address|hex|integer|string} value *attribute-value*
 - **radius-attr** vendor *vendor-id* type *attribute-type* [transaction *encoding-type*]
 - **radius-attr** vendor *vendor-id* type *attribute-type* [transaction *encoding-type*] {address|hex|integer|string} value *attribute-value*
 - **no radius-attr** type *attribute-type*
 - **no radius-attr** type *attribute-type* {address|hex|integer|string} *attribute-value*
 - **no radius-attr** vendor *vendor-id* type *attribute-type*
 - **no radius-attr** vendor *vendor-id* type *attribute-type* {address |string} value *attribute-value*
 - [no] **server-address** *ip-address*
 - [no] **wpp**
 - [no] **packet**
 - **detail-level** *detail-level*
 - [no] **portal** *wpp-portal-name*
 - [no] **packet**
 - **detail-level** *detail-level*

Tools Commands

- tools**
 - **dump**
 - **redundancy**
 - **multi-chassis**
 - **force-switchover** **tunnel-group** *local-group-id*
 - **mc-ipsec**
 - **mc-ring**
 - **srrp-sync-data** [**instance** *instance-id*] [**peer** *ip-address*]
 - **srrp-sync-data** **pppoe**
 - **srrp-sync-data** **dhep** **pppoe**
 - **sync-database** [**peer** *ip-address*] [**port** *port-id* | *lag-id*] [**sync-tag** *sync-tag*] [**application** {*dhcps*|*igmp*|*igmp-snooping*|*mc-ring*|*srrp*|*sub-mgmt*|*mld-snooping*}] [**detail**] [**type** {*alarm-deleted*|*local-deleted*}]
 - **perform**
 - **aaa**
 - **route-downloader** **start** [**force**]
 - **persistence**
 - **downgrade** **target-version** *target* [**reboot**]
 - **subscriber-mgmt**
 - **credit-reset** **sap** *sap-id* **subscriber** *sub-ident-string* **sla-profile** *sla-profile-name* {**category** *category-name*|**all-categories**}
 - **credit-reset** **sap** *sap-id* **ip** *ip-address* {**category** *category-name*| **all-categories**}
 - **credit-reset** **svc** *service-id* **ip** *ip-address* {**category** *category-name*| **all-categories**}
 - **edit-ipoe-session** **sap** *sap-id* **mac** *mac-address* [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-string** *sla-profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*] [**app-profile-string** *app-profile-string*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*]
 - **eval-ipoe-session** [**svc-id** *service-id*] [**sap** *sap-id*] [**mac** *mac-address*] [**circuit-id** *circuit-id*] [**remote-id** *remote-id*] [**subscriber** *sub-ident-string*]
 - **eval-lease-state** **sap** *sap-id* **ip** *ip-address* [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-string** *sla-profile-string*] [**app-profile-string** *app-profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*]
 - **eval-lease-state** **svc-id** *service-id* **ip** *ip-address* [**subscriber** *sub-ident-string*] [**sub-profile-string** *sub-profile-string*] [**sla-profile-string** *sla-profile-string*] [**app-profile-string** *app-profile-string*] [**inter-dest-id** *intermediate-destination-id*] [**ancp-string** *ancp-string*]
 - **re-ident-sub** *old-sub-ident-string* **to** *new-sub-ident-string*