
IES Services Command Reference

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IES Service Configuration Commands

Global Commands

```

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id] [create]
    — no ies service-id
      — description description-string
      — no description
      — igmp-host-tracking
        — expiry-time expiry-time
        — [no] shutdownt
      — service-name service-name
      — no service-name
      — [no] shutdownt

```

Interface Commands

```

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id]

```

- **interface** *ip-int-name* [**create**] [**tunnel**]
- **no interface** *ip-int-name*
 - [**no**] **active-cpm-protocols**
 - **address** {*ip-address/mask* | *ip-address netmask*} [**broadcast** [**all-ones** | **host-ones**]]
 - **no address** [*ip-address/mask* | *ip-address netmask*]
 - [**no**] **allow-directed-broadcasts**
 - [**no**] **arp-populate**
 - **arp-timeout** *seconds*
 - **no arp-timeout**
 - **authentication-policy** *name name*
 - **no authentication-policy** *name*
 - **bfd** *transmit-interval* [**receive** *receive-interval*] [**multiplier** *multiplier*][**echo-receive** *echo-interval*] [**type** **cpm-np**]
 - **no bfd**
 - **cflowd** [**acl** | **interface**] [**direction**]
 - **no cflowd**
 - **cpu-protection** *policy-id*
 - **no cpu-protection**
 - **description** *description-string*
 - **no description**
 - **dhcp**
 - **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** | **vlan-ascii-tuple**]
 - **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*] [**radius-override**]
 - **no lease-time**
 - [**no**] **shutdownnt**
 - **relay-unicast-msg** **release-update-src-ip**
 - **no relay-unicast-msg**
 - **server** *server1* [*server2...*(up to 8 max)]
 - **no server**
 - [**no**] **shutdownnt**
 - [**no**] **trusted**
 - **dynamic-tunnel-redundant-next-hop** *ip-address*

- **no dynamic-tunnel-redundant-next-hop**
- **[no] enable-ingress-stats**
- **[no] enable-mac-accounting**
- **[no] flowspec**
- **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 unreachables**
- **ip-mtu** *octets*
- **no ip-mtu**
- **ipcp**
 - **dns** *ip-address* [**secondary** *ip-address*]
 - **dns** **secondary** *ip-address*
 - **no dns** [*ip-address*] [**secondary** *ip-address*]
 - **peer-ip-address** *ip-address*
 - **no peer-ip-address**
- **[no] ipv6**
 - **address** *ipv6-address/prefix-length* [**eui-64**]
 - **no address** *ipv6-address/prefix-length*
 - **bfd** *transmit-interval* [**receive** *receive-interval*] [**multiplier** *multiplier*][**echo-receive** *echo-interval*] [**type** *cpm-np*]
 - **no bfd**
 - **[no] dhcp6-relay**
 - **description** *description-string*
 - **no description**
 - **lease-populate** [*nbr-of-leases*] **route-populate** [**pd**] [**na**] [**ta**]
 - **lease-populate** [*nbr-of-leases*] **route-populate** **pd** [**na**] [**ta**]
 - **lease-populate** [*nbr-of-leases*] **route-populate** [**pd**] [**na**] **ta**
 - **no lease-populate**
 - **[no] neighbor-resolution**
 - **[no] option**
 - **interface-id**
 - **interface-id** **ascii-tuple**
 - **interface-id** **ifindex**
 - **interface-id** **sap-id**
 - **interface-id** **string**
 - **no interface-id**
 - **[no] remote-id**
 - **server** *ipv6z-address* [*ipv6z-address...*(up to 8 max)]
 - **no server** [*ipv6z-address...*(up to 8 max)]
 - **[no] shutdownnt**
 - **source-address** *ipv6-address*
 - **no source-address**
 - **[no] dhcp6-server**

- **no lease-populate**
- **max-nbr-of-leases** *max-nbr-of-leases*
- **no max-nbr-of-leases**
- **[no] prefix-delegation**
 - **[no] prefix** *ipv6-address/prefix-length*
 - **duid** *duid [iaid iaid]*
 - **no duid**
 - **preferred-lifetime** *seconds*
 - **preferred-lifetime infinite**
 - **no preferred-lifetime**
 - **valid-lifetime** *seconds*
 - **valid-lifetime infinite**
 - **no valid-lifetime**
 - **[no] shutdownnt**
- **icmp6**
 - **packet-too-big** [*number seconds*]
 - **no packet-too-big**
 - **param-problem** [*number seconds*]
 - **no param-problem**
 - **redirects** [*number seconds*]
 - **no redirects**
 - **time-exceeded** [*number seconds*]
 - **no time-exceeded**
 - **unreachables** [*number seconds*]
 - **no unreachables**
- **[no] local-proxy-nd**
- **neighbor** *ipv6-address mac-address*
- **no neighbor** *ipv6-address*
- **proxy-nd-policy** *policy-name [policy-name...(up to 5 max)]*
- **no proxy-nd-policy**
- **[no] qos-route-lookup**
- **[no] urpf-check**
 - **mode** {**strict** | **loose** | **strict-no-ecmp**}
 - **no mode**
- **[no] local-dhcp-server**
- **[no] local-proxy-arp**
- **[no] loopback**
- **[no] mac** *ieee-address*
- **monitor-oper-group** *name*
- **no monitor-oper-group**
- **[no] proxy-arp-policy** *policy-name [policy-name...(up to 5 max)]*
- **[no] ptp-hw-assist**
- **qos-route-lookup** [**source** | **destination**]
- **no qos-route-lookup**
- **[no] remote-proxy-arp**
- **secondary** {*ip-address/mask* | *ip-address netmask*} [**broadcast all-ones** | **host-ones**] [**igp-inhibit**]
- **no secondary** *ip-address*
- **[no] shutdownnt**
- **static-arp** *ieee-mac-addr unnumbered*
- **no static-arp** *unnumbered*
- **static-tunnel-redundant-next-hop** *ip-address*
- **no static-tunnel-redundant-next-hop**
- **tos-marking-state** {**trusted** | **untrusted**}
- **no tos-marking-state**
- **unnumbered** [*ip-int-name* | *ip-address*]
- **no unnumbered**

- [no] **urpf-check**
 - **mode** {strict | loose | strict-no-ecmp}
 - **no mode**

Routed VPLS Commands

For more information, refer to hee

```

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id]
      — interface ip-interface-name [create]
      — no interface interface-name
        — vpls service-name
        — no vpls
          — ingress
            — v4-routed-override-filter ipv4-filter-id
            — no v4-routed-override-filter
            — v6-routed-override-filter ipv6-filter-id
            — no v6-routed-override-filter
          — egress
            — reclassify-using-qos sap-egress-qos-id
            — no reclassify-using-qos

```

Redundant Interface Commands

```

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id]
      — [no] redundant-interface ip-int-name
        — address {ip-address/mask | ip-address netmask} [remote-ip ip-address]
        — no address
        — description description-string
        — no description
        — [no] shutdownnt
        — no spoke-sdp sdp-id:vc-id
          — egress
            — filter [ip ip-filter-id] [ipv6 ipv6-filter-id]
            — no filter [ip ip-filter-id] [ipv6 ipv6-filter-id]
            — vc-label egress-vc-label
            — no vc-label [egress-vc-label]
          — ingress
            — filter [ip ip-filter-id] [ipv6 ipv6-filter-id]
            — no filter [ip ip-filter-id] [ipv6 ipv6-filter-id]
            — vc-label ingress-vc-label
            — no vc-label [ingress-vc-label]
        — [no] shutdownnt

```

Interface SAP Commands

```

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id]
      — [no] interface ip-int-name
        — [no] sap sap-id
          — arp arpId type type
          — no arp
          — accounting-policy acct-policy-id
          — no accounting-policy [acct-policy-id]
          — anti-spoof {ip | ip-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
              — no traffic-desc
            — oam
              — [no] alarm-cells
              — [no] periodic-loopback
          — calling-station-id calling-station-id
          — no calling-station-id
          — [no] collect-stats
          — cpu-protection policy-id [mac-monitoring][eth-cfm-monitoring [aggregate] [car]] [ip-src-monitoring]
          — no cpu-protection
          — description description-string
          — no description
          — dist-cpu-protection policy-name
          — no dist-cpu-protection
          — egress
            — agg-rate-limit agg-rate [queue-frame-based-accounting]
            — no agg-rate-limit
            — [no] qinq-mark-top-only
            — filter [ip ip-filter-id]
            — filter [ipv6 ipv6-filter-id]
            — no filter [ip ip-filter-id] [ipv6 ipv6-filter-id]
            — [no] hsmda-queue-override
              — secondary-shaper secondary-shaper-name
              — no secondary-shaper
              — wrr-policy hsmda-wrr-policy-name
              — no wrr-policy
              — packet-byte-offset {add add-bytes | subtract sub-bytes}
              — no packet-byte-offset
              — queue queue-id
              — no queue queue-id
              — wrr-weight weight
              — no wrr-weight

```


- **mbs** *size* {[bytes | kilobytes] | default}
- **no mbs**
- **rate** *pir-rate*
- **no rate**
- **slope-policy** *hsmda-slope-policy-name allowable*
- **no slope-policy**
- [no] **qinq-mark-top-only**
- **qos** *policy-id* [port-redirect-group *queue-group-name* instance *instance-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*
 - **no mbs**
 - **rate** *pir-rate* [cir *cir-rate*]
 - **no rate**
- [no] **scheduler-override**
 - [no] **scheduler** *scheduler-name*
 - **rate** *pir-rate* [cir *cir-rate*]
 - **no rate**
- **scheduler-policy** *scheduler-policy-name*
- **no scheduler-policy**
- **eth-cfm**
 - **mep** *mep-id* **domain** *md-index* **association** *ma-index* [direction {up | down}]
 - **no mep** *mep-id* **domain** *md-index* **association** *ma-index*
 - [no] **ais-enable**
 - [no] **ccm-enable**
 - **ccm-ltm-priority** *priority*
 - **no ccm-ltm-priority**
 - [no] **ccm-padding-size** *ccm-padding*
 - [no] **description**
 - [no] **eth-test-enable**
 - [no] **test-pattern** {all-zeros | all-ones} [crc-enable]
 - **fault-propagation-enable** {use-if-tlv | suspend-ccm}
 - **no fault-propagation-enable**
 - **low-priority-defect** {allDef | macRemErrXcon | remErrXcon | errXcon | xcon | noXcon}
 - **one-way-delay-threshold** *seconds*

- [no] **shutdown**
- **tunnel-fault** [accept | ignore]
- **frame-relay**
 - [no] **frf-12**
 - **ete-fragment-threshold** *fragment-threshold*
 - **no ete-fragment-threshold**
 - [no] **interleave**
 - [no] **scheduling-class** *class-id*
- **host-lockout-policy** *policy-name*
- **no host-lockout-policy**
- [no] **host-shutdown**
- **ingress**
 - **filter** [ip *ip-filter-id*]
 - **filter** [ipv6 *ipv6-filter-id*]
 - **no filter** [ip *ip-filter-id*] [ipv6 *ipv6-filter-id*]
 - [no] **flowspec**
 - **flowspec-ipv6**
 - [no] **flowspec-ipv6**
 - **match-qinq-dot1p** {top | bottom}
 - **no match-qinq-dot1p**
 - **qos** *policy-id* [shared-queuing | multipoint-shared][**fp-redirect-group** *queue-group-name* instance *instance-id*]
 - **no qos** *policy-id*
 - [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*
 - **no mbs**
 - **rate** *pir-rate* [cir *cir-rate*]
 - **no rate**
 - [no] **scheduler-override**
 - [no] **scheduler** *scheduler-name*
 - **rate** *pir-rate* [cir *cir-rate*]
 - **no rate**
 - **scheduler-policy** *scheduler-policy-name*
 - **no scheduler-policy**
- **ip-tunnel** [create]
- **no ip-tunnel** *name*
 - **backup-remote-ip**-ip *ip-address*
 - **no backup-remote-ip**
 - [no] **clear-df-bit**
 - **delivery-service** *service-id*
 - **no delivery-service**
 - **description** *description-string*
 - **no description**
 - [no] **dest-ip** *ip-address*
 - **dscp** *dscp-name*
 - **no dscp**

- [no] **gre-header**
- **ip-mtu** *octets*
- **no ip-mtu**
- **reassemble** [*wait-msecs*]
- **no reassemble**
- **remote-ip** *ip-address*
- **no remote-ip**
- [no] **shutdownnt**
- **source** *ip-address*
- **no source**
- [no] **ipsec-gw**
 - **cert**
 - **cert** *file-name*
 - **no cert**
 - **key** *file-name*
 - **no key**
 - **trust-anchor** *ca-profile-name*
 - **no trust-anchor**
 - **default-secure-service** *service-id ipsec-interface ip-int-name*
 - **no default-secure-service**
 - **default-tunnel-template** *ipsec template identifier*
 - **no default-tunnel-template**
 - **local-gateway-address** *ip-address*
 - **no local-gateway-address**
 - **local-id type** {**ipv4** <*v4address*> | **fqdn** <*fqdn-value*>}
 - **no local-gateway-address**
 - **pre-shared-key** *key*
 - **no pre-shared-key**
 - [no] **shutdownnt**
- **lag-link-map-profile** *lag-link-map-profile-id*
- **no lag-link-map-profile**
- **multi-service-site** *customer-site-name*
- **no multi-service-site**
- **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**
 - [no] **shutdownnt**
 - **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**

- **tod-suite** *tod-suite-name*
- **no tod-suite**
- **transit-policy** *ip-aasub-policy-id*
- **no transit-policy**
- **[no] shutdown**

VRRP Commands

```

config
— service
— ies service-id [customer customer-id] [vpn vpn-id]
— [no] interface ip-int-name
— [no] ipv6
— vrrp virtual-router-id [owner]
— no vrrp virtual-router-id
— [no] backup ip-address
— [no] bfd-enable service-id interface interface-name
  dst-ip ip-address
— [no] bfd-enable interface interface-name dst-ip ip-
  address
— init-delay seconds
— no init-delay
— mac mac-address
— no mac
— [no] master-int-inherit
— message-interval {[seconds] [milliseconds milliseconds]}
— no message-interval
— [no] ping-reply
— policy vrrp-policy-id
— no policy
— [no] preempt
— priority base-priority
— no priority
— [no] shutdownnt
— [no] standby-forwarding
— [no] telnet-reply
— [no] traceroute-reply
— vrrp virtual-router-id [owner]
— no vrrp virtual-router-id
— authentication-key {authentication-key | hash-key} [hash |
  hash2]
— no authentication-key
— authentication-type {password | message-digest}
— no authentication-type
— [no] backup ip-address
— [no] bfd-enable [service-id] interface interface-name dst-ip ip-
  address
— init-delay seconds
— no init-delay
— mac ieee-address
— no mac
— [no] master-int-inherit
— message-interval {[seconds] [milliseconds milliseconds]}
— no message-interval
— [no] ping-reply
— policy vrrp-policy-id

```

- **no policy**
- **[no] preempt**
- **priority** *priority*
- **no priority**
- **[no] shutdown**
- **[no] ssh-reply**
- **[no] standby-forwarding**
- **[no] telnet-reply**
- **[no] traceroute-reply**

Spoke SDP Commands

```

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id]
      — [no] interface ip-int-name
        — [no] spoke-sdp sdp-id:vc-id [vc-type {ether | ipipe}] [create]
          — arp arpId type type
          — no arp
          — accounting-policy acct-policy-id
          — no accounting-policy
          — app-profile app-profile-name
          — no app-profile
          — [no] collect-stats
          — [no] control-channel-status
            — refresh-timer value
            — no refresh-timer
          — [no] control-word
          — eth-cfm
            — mep mep-id domain md-index association ma-index
              [direction {up | down}]
            — no mep mep-id domain md-index association ma-index
              — [no] ais-enable
              — [no] ccm-enable
              — ccm-ltm-priority priority
              — no ccm-ltm-priority
              — [no] description
              — [no] eth-test-enable
              — [no] test-pattern {all-zeros | all-ones}
                [crc-enable]
              — fault-propagation-enable {use-if-tlv | suspend-ccm}
              — no fault-propagation-enable
              — low-priority-defect {allDef|macRemErrXcon|remErrXcon|errXcon|xcon|noXcon}
              — low-priority-defect seconds
              — [no] shutdownt
            — egress
              — filter [ip ip-filter-id]
              — filter [ipv6 ipv6-filter-id]
              — no filter [ip ip-filter-id] [ipv6 ipv6-filter-id]
              — qos network-policy-id port-redirect-group queue-group-name [instance instance-id]
              — no qos
              — vc-label egress-vc-label
              — no vc-label [egress-vc-label]
            — flowspec
            — [no] flowspec
            — flowspec-ipv6
            — [no] flowspec-ipv6
            — [no] hash-label
            — ingress

```

- **filter** {**ip** *ip-filter-id*}
- **filter** [**ipv6** *ipv6-filter-id*]
- **no filter**
- [**no**] **flowspec**
- **qos** *network-policy-id* **fp-redirect-group** *queue-group-name* **instance** *instance-id*
- **no qos**
- **vc-label** *ingress-vc-label*
- **no vc-label** [*ingress-vc-label*]
- [**no**] **shutdownnt**
- **transit-policy** *ip-aasub-policy-id*
- **no transit-policy**
- [**no**] **pw-path-id**
 - **agi** *agi*
 - **no agi**
 - **saii-type2** *global-id:node-id:ac-id*
 - **no saii-type2**
 - **taii-type2** *global-id:node-id:ac-id*
 - **no taii-type2**

Subscriber Interface Commands

```

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id]
      — [no] subscriber-interface ip-int-name
        — [no] address {ip-address/mask | ip-address netmask} [gw-ip-address ip-address] [populate-host-routes]
        — delayed-enable seconds [init-only]
        — no delayed-enable
        — description description-string
        — no description
        — dhcp
          — gi-address ip-address [src-ip-addr]
          — no gi-address
          — relay-unicast-msg release-update-src-ip
          — no relay-unicast-msg
        — group-interface ip-int-name [create]
        — group-interface ip-int-name [create] lns
        — 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] shutdownnt
          — [no] arp-populate
          — arp-timeout seconds
          — no arp-timeout
          — authentication-policy name
          — no authentication-policy
          — cpu-protection policy-id [mac-monitoring] | [eth-cfm-monitoring [aggregate][car]]
          — no cpu-protection
          — description description-string
          — no description
          — dhcp
            — client-applications dhcp
            — client-applications pppoe
            — client-applications dhcp pppoe
            — no client-applications
            — description description-string
            — no description
            — [no] enable-ingress-stats
            — 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**
- [no] **option**
 - **action** {replace | drop | keep}
 - **no action**
 - **circuit-id** [ascii-tuple | ifindex | sap-id | vlan-ascii-tuple]
 - **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*] [radius-override]
 - **no lease-time**
 - [no] **lease-time**
 - [no] **shutdownnt**
- **relay-unicast-msg** *release-update-src-ip*
- **no relay-unicast-msg**
- **server** *server1* [*server2...*(up to 8 max)]
- **no server**
- [no] **shutdownnt**
- [no] **trusted**
- **user-db** *local-user-db-name*
- **no user-db**
- **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**
- [no] **ipv6**
 - [no] **allow-unmatching-prefixes**
 - **delegated-prefix-length** *bits*
 - **delegated-prefix-length** **variable**
 - **no delegated-prefix-length**
 - [no] **router-advertisements**
 - **current-hop-limit** *hop-count*
 - **no current-hop-limit**
 - [no] **managed-configuration**
 - **max-advertisement-interval** *seconds*
 - **no max-advertisement-interval**
 - **min-advertisement-interval** *seconds*
 - **no min-advertisement-interval**

- **mtu** *bytes*
- **no mtu**
- **[no] other-stateful-configuration**
- **[no] prefix-options**
 - **[no] autonomous**
 - **preferred-lifetime** [*seconds* | **infinite**]
 - **no preferred-lifetime**
 - **valid-lifetime** [*seconds* | **infinite**]
 - **no valid-lifetime**
- **reachable-time** *milliseconds*
- **no reachable-time**
- **retransmit-time** *milliseconds*
- **no retransmit-time**
- **router-lifetime** *seconds*
- **router-lifetime no-default-router**
- **no router-lifetime**
- **[no] urpf-check**
 - **mode** {**strict** | **loose** | **strict-no-ecmp**}
 - **no mode**
- **[no] dhcp6**
 - **[no] proxy-server**
 - **renew-timer** *seconds*
 - **no renew-timer**
 - **rebind-timer** *seconds*
 - **no rebind-timer**
 - **preferred-lifetime** [*seconds* | **infinite**]
 - **no preferred-lifetime**
 - **valid-lifetime** [*seconds* | **infinite**]
 - **no valid-lifetime**
 - **client-applications** [**dhcp**] [**pppoe**]
 - **no client-applications**
 - **[no] shutdownnt**
- **[no] mac** *ieee-address*
- **[no] oper-up-while-empty**
- **[no] pppoe**
 - **description** *description-string*
 - **no description**
 - **dhcp-client**
 - **[no] ccag-use-origin-sap**
 - **pap-chap-user-db** *local-user-db-name*
 - **no pap-chap-user-db**
 - **pppoe-policy** *pppoe-policy-name*
 - **no pppoe-policy**
 - **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] shutdownnt**
- **[no] proxy-arp-policy** *policy-name* [*policy-name... (up to 5 max)*]
- **redundant-interface** *red-ip-int-name*

- **no redundant-interface**
- **[no] remote-proxy-arp**
- **[no] ipv6**
 - **[no] allow-unmatching-prefixes**
 - **[no] delegated-prefix-length** *prefix-length*
 - **[no] subscriber-prefixes**
 - **prefix** *ipv6-address/prefix-length* [**pd**|**wan-host**]
 - **no prefix** *ipv6-address/prefix-length*
- **[no] unnumbered** {*ip-address* | *inf-name*}
 - **[no] unreachable**s
 - **[no] wpp**
 - **initial-app-profile** *profile-name*
 - **no initial-app-profile**
 - **initial-sla-profile** *profile-name*
 - **no initial-sla-profile**
 - **initial-sub-profile** *profile-name*
 - **no initial-sub-profile**
 - **portal router** *router-instance* **name** *wpp-portal-name*
 - **no portal**
 - **[no] restore-disconnected**
 - **[no] shutdown**

Group Interface SAP Commands

```

config
  — service
    — ies service-id [customer customer-id] [vpn vpn-id]
      — [no] subscriber-interface ip-int-name
        — group-interface ip-int-name [create]
        — no group-interface ip-int-name
          — [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
                — no traffic-desc
              — oam
                — [no] alarm-cells
                — [no] periodic-loopback
            — calling-station-id calling-station-id
            — no calling-station-id
            — [no] collect-stats
            — cpu-protection policy-id [mac-monitoring][eth-
cfm-monitoring [aggregate][car]] [ip-src-monitor-
ing]
            — no cpu-protection
            — default-host ip-address/mask next-hop next-hop-ip
            — no default-host ip-address/mask
            — description description-string
            — no description
            — dist-cpu-protection policy-name
            — no dist-cpu-protection
            — egress
              — agg-rate-limit agg-rate [queue-frame-based-
accounting]
              — no agg-rate-limit agg-rate
              — filter ip ip-filter-id
              — no filter
              — filter ipv6 ipv6-filter-id
              — no filter [ip ip-filter-id] [ipv6 ipv6-filter-id]
              — [no] qinq-mark-top-only
              — qos policy-id [port-redirect-group queue-
group-name instance instance-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*
- **scheduler-policy**
- **eth-cfm**
 - **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**direction** {up | down}]
 - **no mep** *mep-id* **domain** *md-index* **association** *ma-index*
 - [no] **ais-enable**
 - [no] **ccm-enable**
 - **ccm-ltm-priority** *priority*
 - **no ccm-ltm-priority**
 - [no] **description**
 - [no] **eth-test-enable**
 - [no] **test-pattern** {all-zeros | all-ones} [crc-enable]
 - **fault-propagation-enable** {use-if-tlv | suspend-ccm}
 - **no fault-propagation-enable**
 - **low-priority-defect** {allDef | macRemErrXcon | remErrXcon | errXcon | xcon | noXcon}
 - **low-priority-defect** *seconds*
 - [no] **shutdownt**
 - **tunnel-fault** [accept | ignore]
- **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**
- [no] **shutdownt**
- **ingress**
 - **filter** **ip** *ip-filter-id*

- **no filter**
- **filter ipv6** *ipv6-filter-id*
- **no filter** [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]
- **match-qinq-dot1p** {**top**|**bottom**}
- **no match-qinq-dot1p**
- **qos** *policy-id* [**shared-queuing** | **multipoint-shared**][**fp-redirect-group** *queue-group-name* **instance** *instance-id*]
- **no qos**
- **scheduler-policy** *scheduler-policy-name*
- **no scheduler-policy**
- **lag-link-map-profile** *lag-link-map-profile-id*
- **no lag-link-map-profile**
- **multi-service-site** *customer-site-name*
- **no multi-service-site**
- **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*
 - **anep-string** *anep-string*
 - **no anep-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 net-mask*} [**create**]
 - **no route** {*ip-prefix/length* | *ip-prefix net-mask*}
 - [**no**] **shutdownnt**
 - **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**] **shutdownnt**
- [**no**] **sub-sla-mgmt**
 - **def-sla-profile** *default-sla-profile-name*
 - **no def-sla-profile**
 - **def-sub-profile** *default-subscriber-profile-name*
 - **no def-sub-profile**
 - **multi-sub-sap** *subscriber-limit*
 - **no multi-sub-sap**
 - [**no**] **shutdownnt**
 - **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**
- **tod-suite** *tod-suite-name*
- **no tod-suite**
- **[no] shutdownnt**
- **[no] srrp** *srrp-id*
 - **[no] bfd-enable** [*service-id*] **interface** *interface-name*
 - **dst-ip** *ip-address*
 - **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] shutdownnt**

Threat Management Service Interface Commands

```

config
  — service
    — ies service-id [customer customer-id]
    — no ies service-id
      — tms-interface interface-name [create] [off-ramp-vprn off-ramp-svc] [mgmt-vprn
        mgmt-svc]
      — no tms-interface interface-name
        — address {ip-address/mask|ip-address netmask}
        — no address
        — description long-description-string
        — no description
        — [no] ipv6
        — password [password]
        — no password
        — port mda-id
        — no port
        — [no] shutdownnt

```

Show Commands

```

show
  — service
    — customer [customer-id] [site customer-site-name]
    — egress-label start-label [end-label]
    — ingress-label end-label [end-label]
    — sap-using [sap sap-id]
    — sap-using interface [ip-address | ip-int-name]
    — sap-using [ingress | egress] atm-td-profile td-profile-id
    — sap-using [ingress | egress] filter filter-id
    — sap-using [ingress | egress] qos-policy qos-policy-id
    — sap-using authentication-policy policy-name
    — service-using [ies] [customer customer-id]
    — 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]
    — id service-id
      — all
      — arp [ip-address][mac ieee-address][sap sap-id][interface ip-int-name][sdp sdp-id:vc-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 [policy name] [sap sap-id]
      — base
      — dhcp
        — lease-state [[sap sap-id] | [sdp sdp-id:vc-id] | [interface interface-name] | [ip-address ip-address]] [detail]
        — statistics [sap sap-id]
        — statistics [sdp sdp-id:vc-id]
        — statistics [interface interface-name]
        — summary
      — gsmp
        — neighbors group [name] [ip-address]
        — sessions [group name] neighbor ip-address] [port port-number] [association] [statistics]
      — host
      — host-connectivity-verify statistics [sap sap-id]
      — interface [ip-address | ip-int-name] [interface-type] [detail] [family]
      — interface
      — retailers
      — sap sap-id [detail]
      — sdp [{sdp-id | far-end ip-address}] [detail]
      — subscriber-hosts [sap sap-id] [ip ip-address[/mask]] [mac ieee-address] [sub-profile sub-profile-name] [sla-profile sla-profile-name] [detail]
      — wholesalers
    — router
      — dhcp
        — statistics [ip-int-name | ip-address]
        — summary
      — vrrp
        — instance
        — instance interface interface-name [vrid virtual-router-id]

```

- **instance interface** *interface-name* **vrid** *virtual-router-id* **ipv6**
- **statistics**

Clear Commands

clear

— router

- **dhcp**
 - **statistics** [*ip-int-name* | *ip-address*]
- **interface** [*ip-int-name* | *ip-address*] [**icmp**]
- **vrrp**
- **interface** *interface-name* [**vrid** *virtual-router-id*]
- **interface** *interface-name* **vrid** *virtual-router-id* **ipv6**
- **statistics**
- **statistics interface** *interface-name* [**vrid** *virtual-router-id*]
- **statistics interface** *interface-name* **vrid** *virtual-router-id* **ipv6**

clear

— 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*]
 - **fdb** {**all** | **mac** *ieee-address* | **sap** *sap-id* | **mesh-sdp** *sdp-id*[:*vc-id*] | **spoke-sdp** *sdp-id*[:*vc-id*] }
 - **dhcp**
 - **lease-state**
 - **lease-state ip-address** *ip-address*
 - **lease-state mac** *ieee-address*
 - **lease-state sap** *sap-id*
 - **lease-state sdp** *sdp-id*[:*vc-id*]
 - **dhcp6**
 - **lease-state** [**ip-address** *ipv6-address/prefix-length*] [**mac** *ieee-address*]
 - **lease-state** [**interface** *ip-int-name* | *ipv6-address*]
- **site** *service-id*
- **spoke-sdp** *sdp-id*[:*vc-id*] *ingress-vc-label*
- **stp**

Debug Commands

```

debug
  — service
    — id service-id
    — [no] arp-host
      — [no] host-connectivity-verify
        — [no] ip ip-address
        — [no] mac ieee-address
        — [no] sap sap-id
    — router
      — vrrp
        — [no] events
        — events interface-name [vrid virtual-router-id]
        — events interface-name vrid virtual-router-id ipv6
        — [no] packets
        — packets interface-name [vrid virtual-router-id]
        — packets interface-name vrid virtual-router-id ipv6
  
```

Monitor Commands

```

monitor
  — router
    — vrrp
      — instance interface interface-name vr-id virtual-router-id [ipv6] [interval seconds]
        [repeat repeat] [absolute | rate]
  
```