
VLL Services Command Reference

Command Hierarchies

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Apipe Service Configuration Commands

```

config
  — service
    — apipe service-id [customer customer-id] [vpn vpn-id] [vc-type {atm-vcc | atm-sdu | atm-vpc
      | atm-cell}] [vc-switching]
    — no apipe service-id
      — description description-string
      — no description
      — [no] endpoint endpoint-name
        — active-hold-delay active-hold-delay
        — no active-hold-delay
        — description description-string
        — no description
        — revert-time revert-time
        — no revert-time
      — interworking {frf-5}
      — no interworking
      — sap {port-id|aps-id}[:vpi/vci|vpi|vpi1.vpi2|cp.conn-prof-id]
      — sap sap-id [no-endpoint]
      — sap sap-id [endpoint endpoint-name]
      — no sap sap-id
        — accounting-policy acct-policy-id
        — no accounting-policy
        — atm
          — egress
            — traffic-desc traffic-desc-profile-id
            — no traffic-desc
          — ingress
            — traffic-desc traffic-desc-profile-id
            — no traffic-desc
          — [no] llf
          — oam
            — [no] alarm-cells
            — [no] terminate
        — [no] collect-stats

```

- **cpu-protection** *policy-id* [**mac-monitoring**] | [**eth-cfm-monitoring** [**aggregate**][**car**]]
- **no cpu-protection**
- **description** *description-string*
- **no description**
- **dist-cpu-protection** *policy-name*
- **no dist-cpu-protection**
- **egress**
 - **agg-rate-limit** *agg-rate*
 - **no agg-rate-limit**
 - **policer-control-override** [**create**]
 - **no policer-control-override**
 - **max-rate** {*rate* | **max**}
 - **priority-mbs-thresholds**
 - **min-thresh-separation**
 - **[no] priority** *level*
 - **mbs-contribution** *size* [**bytes** | **kilobytes**]
 - **policer-control-policy** *policy-name*
 - **no policer-control-policy**
 - **[no] policer-override**
 - **policer** *policer-id* [**create**]
 - **no policer** *policer-id*
 - **cbs** *size* [**bytes** | **kilobytes**]
 - **no cbs**
 - **mbs** *size* [**bytes** | **kilobytes**]
 - **no mbs**
 - **packet-byte-offset** **add** *add-bytes* | **subtract** *sub-bytes*}
 - **percent-rate** *pir-percent* [**cir** *cir-percent*]
 - **no percent-rate**
 - **rate** {*rate* | **max**} [**cir** {**max** | *rate*}]
 - **stat-mode** *stat-mode*
 - **no stat-mode**
 - **[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** *adaptation-rule*] [**cir** *adaptation-rule*]
 - **no adaptation-rule**
 - **avg-frame-overhead** *percentage*
 - **no avg-frame-overhead**
 - **burst-limit** *size-in-kbytes*
 - **no burst-limit**
 - **high-prio-only** *percent*
 - **no high-prio-only**
 - **mbs** {*size-in-kbytes* | **default**}
 - **no mbs**
 - **parent** {[**weight** *weight*] [**cir-weight** *cir-weight*]}
 - **no parent**
 - **percent-rate** *pir-percent* [**cir** *cir-percent*]
 - **no percent-rate**

- **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**
- **frame-relay**
 - **scheduling-class** *class-id*
 - **no scheduling-class**
- **ingress**
 - **policer-control-override** [**create**]
 - **no policer-control-override**
 - **max-rate** {*rate* | **max**}
 - **priority-mbs-thresholds**
 - **min-thresh-separation**
 - **[no] priority** *level*
 - **mbs-contribution** *size* [**bytes** | **kilobytes**]
 - **[no] policer-override**
 - **policer** *policer-id* [**create**]
 - **no policer** *policer-id*
 - **cbs** *size* [**bytes** | **kilobytes**]
 - **no cbs**
 - **mbs** *size* [**bytes** | **kilobytes**]
 - **no mbs**
 - **packet-byte-offset** **add** *add-bytes* | **subtract** *sub-bytes*}
 - **percent-rate** *pir-percent* [**cir** *cir-percent*]
 - **no percent-rate**
 - **rate** {*rate* | **max**} [**cir** {**max** | *rate*}]
 - **stat-mode** *stat-mode*
 - **no stat-mode**
 - **qos** *policy-id* [**shared-queuing**] [**fp-redirect-group** *queue-group-name* **instance** *instance-id*]
 - **no qos**
 - **[no] queue-override**
 - **[no] queue** *queue-id*
 - **adaptation-rule** [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]
 - **no adaptation-rule**
 - **burst-limit** *size-in-kbytes*
 - **no burst-limit**
 - **high-prio-only** *percent*
 - **no high-prio-only**
 - **mbs** {*size-in-kbytes* | **default**}
 - **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**
- **multi-service-site** *customer-site-name*
- **no multi-service-site**
- **[no] shutdown**
- **tod-suite** *tod-suite-name*
- **no tod-suite**
- **service-mtu** *octets*
- **no service-mtu**
- **service-name** *service-name*
- **no service-name**
- **[no] shutdown**
- **signaled-vc-type-override** {*atm-vcc*}
- **no signaled-vc-type-override**
- **spoke-sdp** [*sdp-id[:vc-id]*] [**no-endpoint**]
- **spoke-sdp** [*sdp-id[:vc-id]*] **endpoint** *endpoint-name* [**icb**]
- **no spoke-sdp** [*sdp-id[:vc-id]*]
 - **bandwidth**
 - **no bandwidth**
 - **cell-concatenation**
 - **[no]aal5-frame-aware**
 - **[no]clp-change**
 - **max-cells** *cell-count*
 - **no max-cells** [*cell-count*>]
 - **max-delay** *delay-time*
 - **no max-delay** [*delay-time*]
 - **[no]control-word**
- **egress**
 - **qos** *network-policy-id* **port-redirect-group** *queue-group-name* [*instance instance-id*]
 - **no qos**
 - **vc-label** *ingress-vc-label*
 - **no vc-label** [*ingress-vc-label*]
- **ingress**
 - **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*]
- **precedence** [*precedence-value*] **primary**]
- **no precedence**
- **[no] shutdown**

config

- **connection-profile** *conn-prof-id* [**create**]
- **no connection-profile** *conn-prof-id*

Related Apipe Commands

Connection Profile Commands

config

- **connection-profile** *conn-prof-id* [**create**]
- **no connection-profile** *conn-prof-id*
 - **description** *description-string*
 - **no description**
 - **member** *encap-value* [**create**]
 - **no member** *encap-value*

Cpipe Service Configuration Commands

```

config
  — service
    — cpipe service-id [customer customer-id] [vpn vpn-id] [vc-type {satop-e1 | satop-t1 | satop-e3 | satop-t3 | cesopsn | cesopsn-cas}] [vc-switching] [create]
    — no cpipe service-id
      — description description-string
      — no description [description-string]
      — endpoint endpoint-name [create]
      — no endpoint endpoint-name
        — active-hold-delay active-endpoint-delay
        — no active-hold-delay
        — description description-string
        — no description [description-string]
        — revert-time revert-time
        — no revert-time
      — sap sap-id [no-endpoint] [create]
      — sap sap-id endpoint endpoint-name [create]
      — no sap sap-id
        — accounting-policy acct-policy-id
        — no accounting-policy [acct-policy-id>]
        — cem
          — packet jitter-buffer milliseconds [payload-size bytes]
          — packet payload-size bytes
          — no packet
          — [no] report-alarm [stray] [malformed] [pktloss] [overrun]
            [underrun] [rpktloss] [rfault] [rrdi]
          — [no] rtp-header
        — [no] collect-stats
        — cpu-protection policy-id [mac-monitoring] | [eth-cfm-monitoring]
          [aggregate][car]
        — description description-string
        — no description [description-string]
        — dist-cpu-protection policy-name
        — no dist-cpu-protection
        — egress
          — agg-rate-limit agg-rate
          — no agg-rate-limit
          — [no] qinq-mark-top-only
          — [no] qos [policy-id]
          — [no] queue-override
            — queue queue-id [create]
            — no queue queue-id
              — adaptation-rule [pir adaptation-rule] [cir]
                adaptation-rule}]
              — no adaptation-rule
              — avg-frame-overhead percent
              — no avg-frame-overhead
              — 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
— [no] scheduler-override
— scheduler scheduler-name [create]
— no scheduler scheduler-name
— rate pir-rate [cir cir-rate]
— no rate
— scheduler-policy scheduler-policy-name
— no scheduler-policy
— ingress
— [no] qos [policy-id]
— [no] queue-override
— queue queue-id [create]
— no queue queue-id
— adaptation-rule [pir adaptation-rule] [cir adaptation-rule]
— no adaptation-rule
— avg-frame-overhead percent
— no avg-frame-overhead
— 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
— [no] scheduler-override
— scheduler scheduler-name [create]
— no scheduler scheduler-name
— rate pir-rate [cir cir-rate]
— no rate
— scheduler-policy scheduler-policy-name
— no scheduler-policy
— multi-service-site customer-site-name
— no multi-service-site
— tod-suite tod-suite-name
— no tod-suite
— service-mtu octets
— no service-mtu
— service-name service-name
— no service-name
— [no] shutdown
— spoke-sdp sdp-id[:vc-id] [no-endpoint] [create]
— spoke-sdp sdp-id:vc-id [create] endpoint endpoint-name [icb]
— no spoke-sdp sdp-id[:vc-id]
— accounting-policy acct-policy-id
— no accounting-policy
— bandwidth bw-value
— bandwidth max
— no bandwidth
— [no] collect-stats
— [no] control-channel-status
— refresh-timer value

```

- **no refresh-timer**
- **[no] control-word**
- **egress**
 - **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*]
- **ingress**
 - **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] 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**
- **precedence** [*precedence-value*] **primary**
- **no precedence**
- **[no] shutdown**

Epipe Service Configuration Commands

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- Epipe SAP Configuration Commands on page 433
- Epipe Spoke SDP Configuration Commands on page 438

Epipe Global Commands

```

config
  — service
    — [no] epipe service-id [customer customer-id] [create] [vpn vpn-id] [vc-switching]
      — [no] bgp
        — pw-template-binding policy-id [import-rt {ext-community,(upto 5 max)}]
        — no pw-template-binding policy-id
        — route-distinguisher [ip-addr:comm-val | as-number:ext-comm-val]
        — no route-distinguisher
        — route-target {ext-community}{[export ext-community][import ext-community]}
        — no route-target
      — [no] bgp-vpws
        — [no] remote-ve-name name
          — ve-id value
          — no ve-id
        — [no] shutdown
        — [no] ve-name name
          — ve-id value
          — no ve-id
        — description description-string
        — no description
        — [no] endpoint endpoint-name
          — active-hold-delay active-endpoint-delay
          — no active-hold-delay
          — description description-string
          — no description
          — revert-time [revert-time | infinite]
          — no revert-time
          — [no] standby-signaling-master
          — [no] standby-signaling-slave
        — [no] per-service-hashing
        — tunnel service-id backbone-dest-mac mac-name [ieee-address isid ISID]
        — no tunnel
        — service-mtu octets
        — no service-mtu
        — service-name service-name
        — no service-name
        — site name [create]
        — no site
          — boot-timer seconds
          — no boot-timer

```

- **sap** *sap-id*
- **no sap**
- **site-activation-timer** *seconds*
- **no site-activation-timer**
- **site-id** *value*
- **no site-id**
- **site-preference** *preference-value*
- **site-preference** {**primary**|**backup**}
- **no site-preference**
- [**no**] **shutdown**
- **spoke-sdp** *sdp-id[:vc-id]* [**vc-type** {**ether** | **vlan**}] [**create**] [**no-endpoint**]
- **spoke-sdp** *sdp-id[:vc-id]* [**vc-type** {**ether** | **vlan**}] [**create**] **endpoint**
- **no spoke-sdp** *sdp-id[:vc-id]*
 - [**no**] **control-channel-status**
 - **refresh-timer** *value*
 - **no refresh-timer**
 - [**no**] **control-word**
 - **hash-label**
 - **no hash-label**
 - [**no**] **standby-signaling-slave**
 - [**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**

Epipe SAP Configuration Commands

```

config
  — service
    — epipe service-id
      — sap sap-id [create] [no-endpoint]
      — sap sap-id [create] endpoint endpoint-name
      — no sap sap-id
        — accounting-policy acct-policy-id
        — no accounting-policy acct-policy-id
        — 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
      — cem
        — local-ecid emulated circuit identifier
        — no local-ecid
        — packet jitter-buffer milliseconds [payload-size bytes]
        — packet payload-size bytes
        — no packet
        — remote-ecid emulated circuit identifier
        — no remote-ecid
        — remote-mac ieee-address
        — no remote-mac
        — [no] report-alarm [stray] [malformed] [pktloss] [overrun]
          [underrun] [rpktloss] [rfault] [rrdi]
        — [no] rtp-header
      — [no] collect-stats
      — cpu-protection policy-id [mac-monitoring] | [eth-cfm-monitoring
        [aggregate][car]]
      — 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
        — filter [ip ip-filter-id]
        — filter [ipv6 ipv6-filter-id]
        — filter [mac mac-filter-id]
        — no filter [ip ip-filter-id] [ipv6 ipv6-filter-id] [mac mac-filter-id]
        — [no] hsmdda-queue-override
          — packet-byte-offset {add add-bytes | subtract sub-bytes}

```

- **no packet-byte-offset**
- **queue** *queue-id*
- **no queue** *queue-id*
 - **mbs** *size* {[bytes | kilobytes] | default}
 - **no mbs**
 - **rate** *pir-rate*
 - **no rate**
 - **slope-policy** *hsmda-slope-policy-name allowable*
 - **no slope-policy**
 - **wrr-weight** *weight*
 - **no wrr-weight**
 - **secondary-shaper** *secondary-shaper-name*
 - **no secondary-shaper**
 - **wrr-policy** *hsmda-wrr-policy-name*
 - **no wrr-policy**
- **policer-control-override** [create]
- **no policer-control-override**
 - **max-rate** {*rate* | max}
 - **priority-mbs-thresholds**
 - **min-thresh-separation**
 - [no] **priority** *level*
 - **mbs-contribution** *size* [bytes | kilobytes]
- **policer-control-policy** *policy-name*
- **no policer-control-policy**
- [no] **policer-override**
 - **policer** *policyer-id* [create]
 - **no policer** *policyer-id*
 - **cbs** *size* [bytes | kilobytes]
 - **no cbs**
 - **mbs** *size* [bytes | kilobytes]
 - **no mbs**
 - **packet-byte-offset** **add** *add-bytes* | **subtract** *sub-bytes*}
 - **percent-rate** *pir-percent* [cir *cir-percent*]
 - **no percent-rate**
 - **rate** {*rate* | max} [cir {max | *rate*}]
 - **stat-mode** *stat-mode*
 - **no stat-mode**
- [no] **qinq-mark-top-only**
- **qos** *policy-id* [**port-redirect-group** *queue-group-name* **instance** *instance-id*]
- **no qos**
- [no] **queue-override**
 - **queue** *queue-id* [create]
 - **no queue** *queue-id*
 - **adaptation-rule** [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]
 - **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* [bytes|kilobytes]

- **no mbs**
- **parent** {[**weightweight**] [**cir-weight** *cir-weight*]}
- **percent-rate** *pir-percent* [**cir** *cir-percent*]
- **no percent-rate**
- **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**
 - [**no**] **ais-enable**
 - [**no**] **mep** *mep-id* **domain** *md-index* **association** *ma-index* [**direction** {**up** | **down**}] **primary-vlan-enable** [**vlan** *vlan-id*]
 - [**no**] **ais-enable**
 - [**no**] **client-meg-level** [[**level** [*level* ...]]]
 - [**no**] **interval** {**1** | **60**}
 - [**no**] **priority** *priority-value*
 - [**no**] **ccm-enable**
 - [**no**] **ccm-ltm-priority** *priority*
 - **ccm-padding-size** *ccm-padding*
 - **noccm-padding-size** *ccm-padding*
 - [**no**] **description**
 - [**no**] **eth-test-enable**
 - [**no**] **bit-error-threshold** *bit-errors*
 - **test-pattern** {**all-zeros** | **all-ones**} [**crc-enable**]
 - **no test-pattern**
 - [**no**] **fault-propagation-enable** {**use-if-tlv** | **suspend-ccm**}
 - **low-priority-defect** {**allDef** | **macRemErrXcon** | **remErrXcon** | **errXcon** | **xcon** | **noXcon**}
 - **mac-address** *mac-address*
 - **no mac-address**
 - **one-way-delay-threshold** *seconds*
 - [**no**] **shutdown**
 - **mip** [**mac** *mac-address*] **primary-vlan-enable** [**vlan** *vlan-id*]
 - **mip** **default-mac**
 - **no mip**
 - **tunnel-fault** [**accept** | **ignore**]
- **eth-tunnel**
 - **path** *path-index* **tag** *qtag*[*.qtag*]
 - **no path** *path-index*
- **ethernet**
 - [**no**] **llf**
- **frame-relay**
 - [**no**] **frf-12**
 - **ete-fragment-threshold** *threshold*
 - **no ete-fragment-threshold**
 - [**no**] **interleave**
 - **scheduling-class** *class-id*
 - **no scheduling-class**

- **[no] ignore-oper-down**
- **ingress**
 - **agg-rate-limit** *agg-rate*
 - **no agg-rate-limit**
 - **filter** [**ip** *ip-filter-id*]
 - **filter** [**ipv6** *ipv6-filter-id*]
 - **filter** [**mac** *mac-filter-id*]
 - **no filter** [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*] [**mac** *mac-filter-id*]
 - **qos** *network-policy-id* **fp-redirect-group** *queue-group-name*
instance *instance-id*
 - **no qos**
 - **[no] hsmda-queue-override**
 - **packet-byte-offset** {**add** *add-bytes* | **subtract** *sub-bytes*}
 - **no packet-byte-offset**
 - **queue** *queue-id*
 - **no queue** *queue-id*
 - **rate** *pir-rate*
 - **no rate**
 - **slope-policy** *hsmda-slope-policy-name* *allowable*
 - **no slope-policy**
- **match-qinq-dot1p** {**top** | **bottom**}
- **no match-qinq-dot1p**
 - **policer-control-override** [**create**]
 - **no policer-control-override**
 - **max-rate** {*rate* | **max**}
 - **priority-mbs-thresholds**
 - **min-thresh-separation**
 - **[no] priority** *level*
 - **mbs-contribution** *size* [**bytes** | **kilobytes**]
 - **policer-control-policy** *policy-name*
 - **no policer-control-policy**
 - **[no] policer-override**
 - **policer** *policyer-id* [**create**]
 - **no policer** *policyer-id*
 - **cbs** *size-in-kilobytes*
 - **no cbs**
 - **mbs** *size* [**bytes** | **kilobytes**]
 - **no mbs**
 - **packet-byte-offset** **add** *add-bytes* | **subtract** *sub-bytes*}
 - **percent-rate** *pir-percent* [**cir** *cir-percent*]
 - **no percent-rate**
 - **rate** {*rate* | **max**} [**cir** {**max** | *rate*}]
 - **stat-mode** *stat-mode*
 - **no stat-mode**
 - **qos** *policy-id* [**shared-queuing**] [**fp-redirect-group** *queue-group-name* **instance** *instance-id*]
 - **no qos**
 - **[no] queue-override**
 - **[no] queue** *queue-id*
 - **adaptation-rule** [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]
 - **no adaptation-rule**
 - **cbs** *size-in-kilobytes*

- **no cbs**
- **high-prio-only** *percent*
- **no high-prio-only**
- **mbs** *size* [**bytes** | **kilobytes**]
- **no mbs**
- **parent** {[**weight** *weight*] [**cir-weight** *cir-weight*]}
- **no parent**
- **percent-rate** *pir-percent* [**cir** *cir-percent*]
- **no percent-rate**
- **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**
- **vlan-translation** {**vlan-id** | **copy-outer**}
- **no vlan-translation**
- **monitor-oper-group** *group-name*
- **no monitor-oper-group**
- **multi-service-site** *customer-site-name*
- **no multi-service-site**
- **oper-group** *group-name*
- **no oper-group**
- **ring-node** *ring-node-name*
- **no ring-node**
- [**no**] **shutdown**
- **tod-suite** *tod-suite-name*
- **no tod-suite**
- **transit-policy** **prefix** *prefix-aasub-policy-id*
- **no transit-policy**
- **lag-link-map-profile** *link-map-profile-id*
- **no lag-link-map-profile**

Epipe Spoke SDP Configuration Commands

```

config
  — service
    — epipe service-id
      — spoke-sdp sdp-id[:vc-id] [vc-type {ether | vlan}] [create] [no-endpoint]
      — spoke-sdp sdp-id[:vc-id] [vc-type {ether | vlan}] [create] endpoint {icb}
      — no spoke-sdp sdp-id[:vc-id]
        — accounting-policy acct-policy-id
        — no accounting-policy
        — app-profile app-profile-name
        — no app-profile
        — bandwidth bandwidth
        — no bandwidth
        — [no] block-on-peer-fault
        — [no] collect-stats
        — [no] control-word
        — cpu-protection policy-id [mac-monitoring] | [eth-cfm-monitoring
          [aggregate][car]]
        — no cpu-protection
        — [no] description
        — [no] egress
          — filter [ip ip-filter-id]
          — filter [ipv6 ipv6-filter-id]
          — filter [mac mac-filter-id]
          — no filter [ip ip-filter-id] [ipv6 ipv6-filter-id][mac mac-filter-id]
          — qos network-policy-id port-redirect-group queue-group-name
            [instance instance-id]
          — no qos
          — [no] vc-label egress-vc-label
      — eth-cfm
        — [no] ais-enable
          — [no] client-meg-level [[level [level ...]]]
          — [no] interval {1 | 60}
          — [no] priority priority-value
        — [no] ccm-enable
        — [no] ccm-ltm-priority priority
        — [no] description
        — [no] eth-test-enable
          — [no] test-pattern {all-zeros | all-ones} [crc-enable]
        — [no] fault-propagation-enable {use-if-tlv | suspend-ccm}
        — [no] one-way-delay-threshold seconds
        — [no] mip [{mac mac-address | default-mac}]
        — mep mep-id domain md-index association ma-index [direction
          {up | down}]
        — no mep mep-id domain md-index association ma-index
          — [no] ccm-enable
          — ccm-ltm-priority priority
          — no ccm-ltm-priority
          — [no] description
          — [no] eth-test-enable
          — ccm-padding-size ccm-padding
          — noccm-padding-size ccm-padding
          — fault-propagation-enable {use-if-tlv | suspend-ccm}
          — no fault-propagation-enable

```


- **low-priority-defect** {allDef | macRemErrXcon | remErrXcon | errXcon | xcon | noXcon}
- **mac-address** *mac-address*
- **no mac-address**
- **[no] shutdown**
- **[no] force-vlan-vc-forwarding**
- **[no] hash-label**
- **[no] ingress**
 - **filter** [ip *ip-filter-id*]
 - **filter** [ipv6 *ipv6-filter-id*]
 - **filter** [mac *mac-filter-id*]
 - **no filter** [ip *ip-filter-id*] [ipv6 *ipv6-filter-id*] [mac *mac-filter-id*]
 - **qos** *network-policy-id* **fp-redirect-group** *queue-group-name* **instance** *instance-id*
 - **no qos**
 - **[no] vc-label** *egress-vc-label*
- **monitor-oper-group** *group-name*
- **no monitor-oper-group**
- **precedence** [*precedence-value*] **primary**
- **no precedence**
- **[no] pw-status-signaling**
- **[no] shutdown**
- **[no] standby-signaling-slave**
- **vlan-vc-tag** *0..4094*
- **no vlan-vc-tag** [*0..4094*]
- **spoke-sdp-fec** *spoke-sdp-fec-id* [**fec** *fec-type*] [**aii-type** *aii-type*] [**create**]
- **spoke-sdp-fec** *spoke-sdp-fec-id* **no-endpoint**
- **spoke-sdp-fec** *spoke-sdp-fec-id* [**fec** *fec-type*] [**aii-type** *aii-type*] [**create**] **endpoint** *name* [**icb**]
- **no spoke-sdp-fec** *spoke-sdp-fec-id*
 - **[no] auto-config**
 - **path** *name*
 - **no path**
 - **precedence** *prec-value*
 - **precedence** **primary**
 - **no precedence**
 - **pw-template-bind** *policy-id*
 - **no pw-template-bind**
 - **retry-count** *retry-count*
 - **no retry-count**
 - **retry-timer** *retry-timer*
 - **no retry-timer**
 - **saii-type2** *global-id:prefix:ac-id*
 - **no saii-type2**
 - **[no] shutdown**
 - **signaling** *signaling*
 - **[no] standby-signaling-slave**
 - **taii-type2** *global-id:prefix:ac-id*
 - **no taii-type2**

Fpipe Service Configuration Commands

```

config
  — service
    — fpipe service-id [customer customer-id] [vpn vpn-id] [vc-type {fr-dlci}] [vc-switching]
    — no fpipe service-id
      — description description-string
      — no description
      — [no] endpoint endpoint-name
        — active-hold-delay active-endpoint-delay
        — no active-hold-delay
        — description description-string
        — no description
        — revert-time revert-time
        — no revert-time
      — sap sap-id [no-endpoint]
      — sap sap-id endpoint endpoint-name
      — no sap sap-id
        — accounting-policy acct-policy-id
        — no accounting-policy
        — [no] collect-stats
        — cpu-protection policy-id [mac-monitoring] | [eth-cfm-monitoring]
          [aggregate][car]
        — description description-string
        — no description
        — dist-cpu-protection policy-name
        — no dist-cpu-protection
        — egress
          — agg-rate-limit agg-rate
          — no agg-rate-limit
          — filter [ip ip-filter-id]
          — filter [ipv6 ipv6-filter-id]
          — no filter [ip ip-filter-id] [ipv6 ipv6-filter-id]
          — policer-control-override [create]
          — no policer-control-override
            — max-rate {rate | max}
            — priority-mbs-thresholds
              — min-thresh-separation
              — [no] priority level
                — mbs-contribution size [bytes | kilobytes]
            — policer-control-policy policy-name
          — no policer-control-policy
          — [no] policer-override
            — policer policer-id [create]
            — no policer policer-id
              — cbs size [bytes | kilobytes]
              — no cbs
              — mbs size [bytes | kilobytes]
              — no mbs
              — packet-byte-offset add add-bytes | subtract sub-bytes}
              — percent-rate pir-percent [cir cir-percent]
              — no percent-rate
              — rate {rate | max} [cir {max | rate}]
              — stat-mode stat-mode

```

- **no stat-mode**
 - **[no] qinq-mark-top-only**
 - **qos** *policy-id*
 - **no qos**
 - **[no] queue-override**
 - **[no] queue** *queue-id*
 - **adaptation-rule** [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]
 - **no adaptation-rule**
 - **avg-frame-overhead** *percent*
 - **no avg-frame-overhead**
 - **burst-limit** *size-in-kbytes*
 - **no burst-limit**
 - **high-prio-only** *percent*
 - **no high-prio-only**
 - **mbs** {*size-in-kbytes* | **default**}
 - **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**
 - **frame-relayscheduling-class** *class-id*
 - **no scheduling-class**
- **ingress**
 - **filter** [**ip** *ip-filter-id*]
 - **filter** [**ipv6** *ipv6-filter-id*]
 - **no filter** [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]
 - **qos** *policy-id* [**shared-queuing**]
 - **no qos**
 - **[no] queue-override**
 - **[no] queue** *queue-id*
 - **adaptation-rule** [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]
 - **no adaptation-rule**
 - **avg-frame-overhead** *percent*
 - **no avg-frame-overhead**
 - **burst-limit** *size-in-kbytes*
 - **no burst-limit**
 - **high-prio-only** *percent*
 - **no high-prio-only**
 - **mbs** {*size-in-kbytes* | **default**}
 - **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**

- **scheduler-policy** *scheduler-policy-name*
- **no scheduler-policy**
- **multi-service-site** *customer-site-name*
- **no multi-service-site**
- **[no] shutdown**
- **tod-suite** *tod-suite-name*
- **no tod-suite**
- **service-mtu** *octets*
- **no service-mtu**
- **service-name** *service-name*
- **no service-name**
- **[no] shutdown**
- **spoke-sdp** *sdp-id[:vc-id]* [**no-endpoint**]
- **spoke-sdp** *sdp-id[:vc-id]* **endpoint** *endpoint-name* [**icb**]
- **no spoke-sdp** *sdp-id[:vc-id]*
 - **bandwidth** *bandwidth*
 - **no bandwidth**
 - **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** *ingress-vc-label*
 - **no vc-label** [*ingress-vc-label*]
- **hash-label**
- **no hash-label**
- **ingress**
 - **filter** [**ip** *ip-filter-id*]
 - **filter** [**ipv6** *ipv6-filter-id*]
 - **no filter** [**ip** *ip-filter-id*] [**ipv6** *ipv6-filter-id*]
 - **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*]
- **precedence** [*precedence-value*] **primary**
- **no precedence**
- **[no] shutdown**

Ipipe Service Configuration Commands

```

config
  — service
    — ipipe service-id [customer customer-id] [vpn vpn-id] [vc-switching]
    — no ipipe service-id
      — [no] ce-address-discovery [ipv6]
      — description description-string
      — no description
      — [no] endpoint endpoint-name
        — active-hold-delay active-endpoint-delay
        — no active-hold-delay
        — description description-string
        — no description
        — revert-time revert-time
        — no revert-time
      — sap sap-id [no-endpoint]
      — sap sap-id endpoint endpoint-name
      — [no] sap eth-tunnel-tunnel-id [:eth-tunnel-sap-id] [create]
      — no sap sap-id
        — accounting-policy acct-policy-id
        — no accounting-policy
        — 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
        — ce-address ip-address
        — no ce-address
        — collect-stats
        — no collect-stats
        — cpu-protection policy-id [mac-monitoring] | [eth-cfm-monitoring
          [aggregate][car]]
        — no cpu-protection
        — description description-string
        — no description
        — dist-cpu-protection policy-name
        — no dist-cpu-protection
        — egress
          — agg-rate-limit agg-rate
          — no agg-rate-limit
          — filter {ip ip-filter-id | 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*
- **no qos**
- **[no] queue-override**
 - **[no] queue** *queue-id*
 - **adaptation-rule** [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]
 - **no adaptation-rule**
 - **avg-frame-overhead** *percent*
 - **no avg-frame-overhead**
 - **burst-limit** *size-in-kbytes*
 - **no burst-limit**
 - **high-prio-only** *percent*
 - **no high-prio-only**
 - **mbs** {*size-in-kbytes* | **default**}
 - **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**
 - **[no] mep** *mep-id* **domain** *md-index* **association** *ma-index* [**direction** {**up** | **down**}]
 - **[no] ccm-enable**
 - **[no] ccm-ltm-priority** *priority*
 - **[no] description**
 - **[no] eth-test-enable**
 - **[no] bit-error-threshold** *bit-errors*
 - **[no] test-pattern** {**all-zeros** | **all-ones**} [**crc-enable**]
 - **[no] fault-propagation-enable** {**use-if-tlv** | **suspend-ccm**}
 - **low-priority-defect** {**allDef** | **macRemErrXcon** | **remErrXcon** | **errXcon** | **xcon** | **noXcon**}
 - **[no] mac-address** *mac-address*
 - **[no] one-way-delay-threshold** <*seconds*>
 - **[no] shutdown**
 - **[no] mip** [{**mac** *mac-address* | **default-mac**}]

- **tunnel-fault** [accept | ignore]
- **eth-tunnel**
 - **path** *path-index tag qtag[.qtag]*
 - **no path** *path-index*
- **ingress**
 - **filter** {**ip** *ip-filter-id* | **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**]
 - **no qos**
 - [**no**] **queue-override**
 - [**no**] **queue** *queue-id*
 - **adaptation-rule** [**pir** *adaptation-rule*] [**cir** *adaptation-rule*]
 - **no adaptation-rule**
 - **burst-limit** *size-in-kbytes*
 - **no burst-limit**
 - **high-prio-only** *percent*
 - **no high-prio-only**
 - **mbs** {*size-in-kbytes* | **default**}
 - **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**
- **lag-link-map-profile** *link-map-profile-id*
- **no lag-link-map-profile**
- **mac** [*ieee-address*]
- **no mac**
- **mac-refresh** [*refresh interval*]
- **no mac-refresh**
- **multi-service-site** *customer-site-name*
- **no multi-service-site**
- [**no**] **shutdown**
- **tod-suite** *tod-suite-name*
- **no tod-suite**
- [**no**] **use-broadcast-mac**
- **service-mtu** *octets*
- **no service-mtu**
- **service-name** *service-name*
- **no service-name**
- [**no**] **shutdown**
- **spoke-sdp** [*sdp-id[:vc-id]*] [**no-endpoint**]
- **spoke-sdp** [*sdp-id[:vc-id]*] **endpoint** *endpoint-name* [**icb**]
- **no spoke-sdp** *sap-id*
 - **bandwidth** *bandwidth*
 - **no bandwidth**
 - **ce-address** *ip-address*
 - **no ce-address**

- **[no] control-word**
- **egress**
 - **filter** {**ip** *ip-filter-id* | **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**
 - **[no] vc-label** *vc-label*
- **hash-label**
- **no hash-label**
- **ingress**
 - **filter** {**ip** *ip-filter-id* | **ipv6** *ipv6-filter-id*}
 - **no filter** {**ip** *ip-filter-id* | **ipv6** *ipv6-filter-id*}
 - **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*]
- **precedence** [*precedence-value*] **primary**
- **no precedence**
- **[no] shutdown**
- **[no] stack-capability-signaling**