
Diagnostics Command Reference

- [OAM Commands on page 255](#)
- [SAA Commands on page 260](#)

OAM Commands

Base Operational Commands

GLOBAL

- **ping** [*ip-address | dns-name*] [**rapid** | **detail**] [**ttl** *time-to-live*] [**tos** *type-of-service*] [**size** *bytes*] [**pattern** *pattern*] [**source** *ip-address | ipv6-address | dns-name*] [**interval** *seconds*] [{**next-hop** *ip-address*} | {**interface** *interface-name*} | **bypass-routing**] [**count** *requests*] [**do-not-fragment**] [**router** *router-instance*] [**time-out** *timeout*]
- **traceroute** [*ip-address | dns-name*] [**ttl** *tll*] [**wait** *milli-seconds*] [**no-dns**][**source** *src-ip-address*] [**tos** *type-of-service*] [**router** [*router-instance*]]
- **oam**
 - **dns** **target-addr** *dns-name* **name-server** *ip-address* [**source** *ip-address*] [**send-count** *send-count*] [**timeout** *timeout*] [**interval** *interval*] [**record-type** {**ipv4-a-record** | **ipv6-aaaa-record**}]
 - **saa** *test-name* [**owner** *test-owner*] {**start** | **stop**} [**no-accounting**]

ATM Diagnostics

GLOBAL

- **oam**
- **atm-ping** *port-id:vpi/vci* [**end-to-end** | **segment**] [**dest** *destination-id*][**send-count** *send-count*][**timeout** *seconds*][**interval** *seconds*]

IGMP Snooping

GLOBAL

- **oam**
- **mfib-ping** **service** *service-id* **source** *src-ip* **destination** *mcast-address* [**size** *size*] [**ttl** *vc-label-ttl*] [**return-control**] [**interval** *interval*] [**send-count** *send-count*] [**timeout** *timeout*]

LDP Diagnostics

GLOBAL

- **oam**
 - **ldp-treetrace** {**prefix** *ip-prefix/mask*} [**max-ttl** *tll-value*] [**max-path** *max-paths*] [**timeout** *timeout*] [**retry-count** *retry-count*] [**fc** *fc-name*] [**profile** *profile*] [**downstream-map-tlv** {**dsmap**|**ddmap**}]
- **config**
 - **test-oam**

- [no] **ldp-treetrace**
 - **fc** *fc-name* [**profile** {in|out}]
 - **no fc**
 - **path-discovery**
 - **interval** *minutes*
 - **no interval**
 - **max-path** *max-paths*
 - **no max-path**
 - **max-ttl** *tll-value*
 - **no max-ttl**
 - **policy-statement** *policy-name*[...(up to 5 max)]
 - **no policy-statement**
 - **retry-count** *retry-count*
 - **no retry-count**
 - **timeout** *timeout*
 - **no timeout**
 - **path-probing**
 - **interval** *minutes*
 - **no interval**
 - **retry-count** *retry-count*
 - **no retry-count**
 - **timeout** *timeout*
 - **no timeout**
- [no] **shutdown**
- **mpls-echo-request-downstream-map** {**dsmap** | **ddmap**}
- **no mpls-echo-request-downstream-map**
- **mpls-time-stamp-format** {**rfc4379** | **unix**}

TWAMP

GLOBAL

- **oam**
 - **oam-test**
 - **twamp**
 - **server**
 - [no] **prefix** {*address/prefix-length*} [**create**]
 - [no] **description** *text*
 - [no] **max-conn-prefix** *count*
 - [no] **max-sess-prefix** *count*
 - **no shutdown**
 - [no] **inactivity-timeout** *seconds*
 - [no] **max-conn-server** *count*
 - [no] **max-sess-server** *count*
 - [no] **shutdown**

LSP Diagnostics

GLOBAL

- **oam**
 - **lsp-ping** *lsp-name* [**path** *path-name*]
 - **lsp-ping static** *lsp-name* [**dest-global-id** *global-id* **dest-node-id** *node-id*] [**control-channel** **none** | **non-ip**] [**path-type** **active** | **working** | **protect**] [**fc** *fc-name* [**profile** **in** | **out**] [**interval** *interval*] [**send-count** *send-count*] [**size** *octets*] [**src-ip-address** *ip-address*] [**timeout** *timeout*] [**tll** *label-ttl*] [**detail**]
 - **lsp-ping bgp-label-prefix** *ip-prefix/mask* [**path-destination** *ip-address* [**interface** *if-name* | **next-hop** *ip-address*]]

- **lsp-ping** **prefix** *ip-prefix/mask* [**path-destination** *ip-address* [**interface** *if-name* | **next-hop** *ip-address*]]
- **lsp-ping** **static** *lsp-name* [**assoc-channel** *none|non-ip*] [**dest-global-id** *global-id* **dest-node-id** *node-id*] [**path-type** *active* | *working* | *protect*]
- **lsp-trace** *lsp-name* [**path** *path-name*]
- **lsp-trace** **static** *lsp-name* [**control-channel** *non* | *non-ip*] [**force**] [**path-type** *active* | *working* | *protect*] [**detail**] [**fc** *fc-name*] [**profile** *in|out*] [**interval** *interval*] [**max-fail** *no-response-count*] [**max-ttl** *max-label-ttl*] [**min-ttl** *min-label-ttl*] [**probe-count** *probes-per-hop*] [**size** *octets*] [**src-ip-address** *ip-address*] [**timeout** *timeout*] [**downstream-map-tlv** *dsmap* | *ddmap*] [**detail**]
- **lsp-trace** **bgp-label-prefix** *ip-prefix/mask* [**path-destination** *ip-address* [**interface** *if-name* | **next-hop** *ip-address*]]
- **lsp-trace** **prefix** *ip-prefix/mask* [**path-destination** *ip-address* [**interface** *if-name* | **next-hop** *ip-address*]]
- **lsp-trace** **static** *lsp-name* [**assoc-channel** *none|non-ip*] [**path-type** *active* | *working* | *protect*]
- **p2mp-lsp-ping** {*lsp-name* [**p2mp-instance** *instance-name* [**s2l-dest-address** *ip-address* [...(upto 5 max)]]] [**ttl** *label-ttl*]} [**fc** *fc-name*] [**profile** {*in|out*}] [**size** *octets*] [**timeout** *timeout*] [**detail**]
- **p2mp-lsp-ping** {**ldp** *p2mp-identifier* [**sender-addr** *ip-address*] [**leaf-addr** *ip-address* [...up-to-5 max]]} [**fc** *fc-name*] [**profile** {*in|out*}] [**size** *octets*] [**timeout** *timeout*] [**detail**]
- **p2mp-lsp-ping** {**ldp-ssm** **source** *ip-address* [**group** *mcast-address*] [**sender-addr** *ip-address*] [**leaf-addr** *ip-address* [...up-to-5 max]]} [**fc** *fc-name*] [**profile** {*in|out*}] [**size** *octets*] [**timeout** *timeout*] [**detail**]
- **p2mp-lsp-trace** *lsp-name* **p2mp-instance** *instance-name* **s2l-dest-address** *ip-address* [**fc** *fc-name*] [**profile** {*in* | *out*}] [**size** *octets*] [**max-fail** *no-response-count*] [**probe-count** *probes-per-hop*] [**min-ttl** *min-label-ttl*] [**max-ttl** *max-label-ttl*] [**timeout** *timeout*] [**interval** *interval*] [**detail**]

SDP Diagnostics

GLOBAL

— oam

- **sdp-mtu** *orig-sdp-id* **size-inc** *start-octets* *end-octets* [**step** *step-size*] [**timeout** *seconds*] [**interval** *seconds*]
- **sdp-ping** *orig-sdp-id* [**resp-sdp** *resp-sdp-id*] [**fc** *fc-name*] [**profile** {*in* | *out*}] [**timeout** *seconds*] [**interval** *seconds*] [**size** *octets*] [**send-count** *send-count*]

Common Service Diagnostics

GLOBAL

— oam

- **anep** {subscriber *sub-ident-string* | **anep-string** *anep-string*} **loopback** [count *count*] [time-out *seconds*] [alarm]
- **anep** subscriber *sub-ident-string* **loopback** [send-count *send-count*] [timeout *seconds*] [alarm]
- **svc-ping** {*ip-addr* | *dns-name*} **service** *service-id* [local-sdp] [remote-sdp]
- **host-connectivity-verify** **service** *service-id* [sap *sap-id*]
- **host-connectivity-verify** subscriber *sub-ident-string* [sla-profile *sla-profile-name*]
- **dns** target-addr *dns-name* name-server *ip-address* [source *ip-address*] [send-count *send-count*] [timeout *timeout*] [interval *interval*]
- **vprn-ping** *service-id* source *src-ip* destination *ip-address* [fc *fc-name*] [profile {in | out}] [size *size*] [ttl *vc-label-ttl*] [return-control] [interval *interval*] [send-count *send-count*] [timeout *timeout*]
- **vprn-trace** *service-id* source *src-ip* destination *ip-address* [fc *fc-name*] [profile {in | out}] [size *size*] [min-ttl *vc-label-ttl*] [max-ttl *vc-label-ttl*] [return-control] [probe-count *send-count*] [interval *seconds*] [timeout *timeout*]

VLL Diagnostics

GLOBAL

— oam

- **vccv-ping** *sdp-id:vc-id* [src-ip-address *ip-addr* dst-ip-address *ip-addr* pw-id *pw-id*][reply-mode {ip-routed | control-channel}][fc *fc-name*] [profile {in | out}] [size *octets*] [send-count *send-count*] [timeout *timeout*] [interval *interval*][ttl *vc-label-ttl*]
- **vccv-ping** static *sdp-id:vc-id* [dest-global-id *global-id* dest-node-id *node-id*] [control-channel *ipv4* | non-ip] [src-ip-address *ip-addr*] [count *send-count*] [fc *fc-name*] [profile in|out]] [interval *interval*] [size *octets*] [timeout *timeout*] [ttl *vc-label-ttl*] [detail]
- **vccv-ping** spoke-sdp-fec *spoke-sdp-fec-id* [saii-type2 *global-id:prefix:ac-id* taii-type2 *global-id:prefix:ac-id*] [src-ip-address *ip-addr* dst-ip-address *ip-addr*] [reply-mode {ip-routed | control-channel}] [fc *fc-name*] [profile {in | out}] [size *octets*] [count *send-count*] [timeout *timeout*] [interval *interval*] [ttl *vc-label-ttl*]
- **vccv-ping** saii-type2 *global-id:prefix:ac-id* taii-type2 *global-id:prefix:ac-id* [src-ip-address *ip-addr* dst-ip-address *ip-addr*] [reply-mode {ip-routed | control-channel}] [fc *fc-name*] [profile {in | out}] [size *octets*] [count *send-count*] [timeout *timeout*] [interval *interval*] [ttl *vc-label-ttl*]
- **vccv-trace** *sdp-id:vc-id* [fc *fc-name*] [profile {in | out}] [size *octets*] [reply-mode *ip-routed*|control-channel] [probe-count *probes-per-hop*] [timeout *timeout*] [interval *interval*] [min-ttl *min-vc-label-ttl*] [max-ttl *max-vc-label-ttl*] [max-fail *no-response-count*] [detail]
- **vccv-trace** static *sdp-id:vc-id* [control-channel *none* | non-ip] [src-ip-address *ipv4-address*] [fc *fc-name*] [profile in|out]] [interval *interval-value*] [max-fail *no-response-count*] [max-ttl *max-vc-label-ttl*] [min-ttl *min-vc-label-ttl*] [probe-count *probe-count*] [size *octets*] [timeout *timeout-value*] [detail]
- **vccv-trace** spoke-sdp-fec poke-sdp-fec *spoke-sdp-fec-id* [saii-type2 *global-id:prefix:ac-id* taii-type2 *global-id:prefix:ac-id*][size *octets*][min-ttl *min-vc-label-ttl*][max-ttl *max-vc-label-ttl*][max-fail *no-response-count*][probe-count *probe-count*][reply-mode *ip-routed* | control-channel][timeout *timeout-value*][interval *interval-value*][fc *fc-name*] [profile {in | out}]] [detail]
- **vccv-trace** saii-type2 *global-id:prefix:ac-id* taii-type2 *global-id:prefix:ac-id* [size *octets*][min-ttl *min-vc-label-ttl*][max-ttl *max-vc-label-ttl*][max-fail *no-response-count*][probe-count *probe-count*][reply-mode *ip-routed* | control-channel][timeout *timeout-value*][interval *interval-value*][fc *fc-name*] [profile {in | out}]] [detail]

GLOBAL

— oam

- **cpe-ping service** *service-id destination dst-ieee-address source ip-address* [**source-mac** *ieee-address*][**ttl** *vc-label-ttl*] [**send-count** *send-count*] [**send-control**] [**return-control**] [**interval** *interval*]
- **mac-ping service** *service-id destination dst-ieee-address* [**source** *src-ieee-address*] [**fc** *fc-name*] [**profile** *in | out*]] [**size** *octets*] [**fc** *fc-name*] [**ttl** *vc-label-ttl*] [**send-count** *send-count*] [**send-control**] [**return-control**] [**interval** *interval*] [**timeout** *timeout*]
- **mac-populate** *service-id mac ieee-address* [**flood**] [**age** *seconds*] [**force**] [**target-sap** *sap-id*] [**send-control**]
- **mac-purge** *service-id target ieee-address* [**flood**] [**send-control**] [**register**]
- **mac-trace service** *service-id destination ieee-address* [**source** *ieee-address*] [**fc** *fc-name*] [**profile** *in | out*]] [**size** *octets*] [**min-ttl** *vc-label-ttl*] [**max-ttl** *vc-label-ttl*] [**probe-count** *send-count*] [**send-control**] [**return-control**] [**interval** *interval*] [**timeout** *timeout*]

Ethernet in the First Mile (EFM) Commands

GLOBAL

— oam

- **efm** *port-id local-loopback* {**start** | **stop**}
- **efm** *port-id remote-loopback* {**start** | **stop**}

ETH-CFM OAM Commands

oam

- **eth-cfm eth-test** *mac-address mep mep-id domain md-index association ma-index* [**priority** *priority*] [**data-length** *data-length*]
- **eth-cfm linktrace** *mac-address mep mep-id domain md-index association ma-index* [**ttl** *ttl-value*]
- **eth-cfm loopback** {*mac-address*|**multicast**} *mep mep-id domain md-index association ma-index* [**send-count** *send-count*] [**size** *data-size*] [**priority** *priority*]
- **eth-cfm one-way-delay-test** *mac-address mep mep-id domain md-index association ma-index* [**priority** *priority*]
- **eth-cfm two-way-delay-test** *mac-address mep mep-id domain md-index association ma-index* [**priority** *priority*]
- **eth-cfm two-way-slm-test** *mac-address mep mep-id domain md-index association ma-index* [**priority** *priority*] [**send-count** *send-count*] [**size** *data-size*][**timeout** *timeout*] [**interval** *interval*]

SAA Commands

- ```

config
 — saa
 — [no] test test-name [owner test-owner]
 — accounting-policy acct-policy-id
 — no accounting-policy
 — [no] continuous
 — description description-string
 — no description
 — [no] jitter-event rising-threshold threshold [falling-threshold threshold] [direction]
 — [no] latency-event rising-threshold threshold [falling-threshold threshold] [direction]
 — [no] loss-event rising-threshold threshold [falling-threshold threshold] [direction]
 — probe-history [auto | drop | keep]
 — [no] shutdown
 — trap-gen
 — [no] probe-fail-enable
 — [no] probe-fail-threshold 0..15
 — [no] test-completion-enable
 — [no] test-fail-enable
 — [no] test-fail-threshold 0..15
 — [no] type
 — cpe-ping service service-id destination ip-address source ip-address
 [source-mac ieee-address] [fc fc-name [profile {in | out}]] [ttl vc-label-ttl]
 [send-count send-count] [send-control] [return-control] [time-out interval] [interval interval]
 — dns target-addr dns-name name-server ip-address [source ip-address]
 [send-count send-count] [time-out timeout] [interval interval]
 — eth-cfm-linktrace mac-address mep mep-id domain md-index association ma-index [ttl ttl-value] [fc {fc-name} [profile {in|out}]] [send-count send-count] [time-out interval] [interval interval]
 — eth-cfm-loopback mac-address mep mep-id domain md-index association ma-index [size data-size] [fc {fc-name} [profile {in|out}]] [send-count send-count] [time-out interval] [interval interval]
 — eth-cfm-two-way-delay mac-address mep mep-id domain md-index association ma-index [fc {fc-name} [send-count send-count]] [time-out interval] [interval interval]
 — eth-cfm-two-way-slm mac-address mep mep-id domain md-index association ma-index [fc {fc-name}] [send-count send-count] [size data-size] [time-out timeout] [interval interval]
 — icmp-ping mac-address mep mep-id domain md-index association ma-index [fc {fc-name} [profile {in|out}]] [send-count send-count] [time-out interval] [interval interval]
 — icmp-ping [ip-address | dns-name] [rapid | detail] [ttl time-to-live] [tos type-of-service] [size bytes] [pattern pattern] [source ip-address | dns-name] [interval interval] [{next-hop ip-address}] [{interface interface-name}] [bypass-routing] [count requests] [do-not-fragment] [router router-instance] [time-out interval]

```

- **icmp-trace** *[ip-address | dns-name]* [**ttl** *time-to-live*] [**wait** *milli-seconds*] [**tos** *type-of-service*] [**source** *ip-address*] [**tos** *type-of-service*] [**router** *router-instance*]
- **lsp-ping** *lsp-name* [**path** *path-name*]
- **lsp-ping static** *lsp-name* [**dest-global-id** *global-id* **dest-node-id** *node-id*] [**control-channel** *none | non-ip*] [**path-type** *active | working | protect*] [**fc** *fc-name*] [**profile** *in | out*] [**interval** *interval*] [**send-count** *send-count*] [**size** *octets*] [**src-ip-address** *ip-address*] [**timeout** *timeout*] [**ttl** *label-ttl*] [**detail**]
- **lsp-ping bgp-label-prefix** *ip-prefix/mask* [**path-destination** *ip-address*] [**interface** *if-name* | **next-hop** *ip-address*]
- **lsp-ping prefix** *ip-prefix/mask* [**path-destination** *ip-address*] [**interface** *if-name* | **next-hop** *ip-address*]
- **lsp-ping static** *lsp-name* [**assoc-channel** *none|non-ip*] [**dest-global-id** *global-id* **dest-node-id** *node-id*] [**path-type** *active | working | protect*]
- **lsp-trace** *lsp-name* [**path** *path-name*]
- **lsp-trace static** *lsp-name* [**control-channel** *non | non-ip*] [**force**] [**path-type** *active | working | protect*] [**detail**] [**fc** *fc-name*] [**profile** *in/out*] [**interval** *interval*] [**max-fail** *no-response-count*] [**max-ttl** *max-label-ttl*] [**min-ttl** *min-label-ttl*] [**probe-count** *probes-per-hop*] [**size** *octets*] [**src-ip-address** *ip-address*] [**timeout** *timeout*] [**downstream-map-tlv** *dsmap | ddmmap*] [**detail**]
- **lsp-trace bgp-label-prefix** *ip-prefix/mask* [**path-destination** *ip-address*] [**interface** *if-name* | **next-hop** *ip-address*]
- **lsp-trace prefix** *ip-prefix/mask* [**path-destination** *ip-address*] [**interface** *if-name* | **next-hop** *ip-address*]
- **lsp-trace static** *lsp-name* [**assoc-channel** *none|non-ip*] [**path-type** *active | working | protect*]
- **mac-ping service** *service-id* **destination** *ieee-address* [**source** *src-ieee-address*] [**fc** *fc-name*] [**profile** *{in | out}*] [**size** *octets*] [**tll** *vc-label-ttl*] [**send-count** *send-count*] [**send-control**] [**return-control**] [**interval** *interval*] [**time-out** *interval*]
- **mac-trace service** *service-id* **destination** *ieee-address* [**source** *src-ieee-address*] [**fc** *fc-name*] [**profile** *{in | out}*] [**size** *octets*] [**min-ttl** *min-label-ttl*] [**max-ttl** *max-label-ttl*] [**probe-count** *send-count*] [**send-control**] [**return-control**] [**interval** *interval*] [**time-out** *timeout*]
- **sdp-ping** *orig-sdp-id* [**resp-sdp** *resp-sdp-id*] [**fc** *fc-name*] [**profile** *{in | out}*] [**size** *octets*] [**send-count** *send-count*] [**time-out** *interval*] [**interval** *interval*]
- **vccv-ping** *sdp-id:vc-id* [**src-ip-address** *ip-addr* **dst-ip-address** *ip-addr*] [**pw-id** *pw-id*] [**reply-mode** *{ip-routed | control-channel}*] [**fc** *fc-name*] [**profile** *{in | out}*] [**size** *octets*] [**send-count** *send-count*] [**time-out** *time-out*] [**interval** *interval*] [**tll** *vc-label-ttl*]
- **vccv-trace** *sdp-id:vc-id* [**size** *octets*] [**min-ttl** *vc-label-ttl*] [**max-ttl** *vc-label-ttl*] [**max-fail** *no-response-count*] [**probe-count** *probe-count*] [**reply-mode** *ip-routed|control-channel*] [**time-out** *timeout-value*] [**interval** *interval-value*] [**fc** *fc-name*] [**profile** *{in | out}*] [**detail**]
- **vprn-ping** *service-id* **source** *src-ip* **destination** *dst-ip* [**fc** *fc-name*] [**profile** *in | out*] [**size** *size*] [**tll** *vc-label-ttl*] [**send-count** *send-count*] [**return-control**] [**time-out** *timeout*] [**interval** *seconds*]
- **vprn-trace** *service-id* **source** *src-ip* **destination** *dst-ip* [**fc** *fc-name*] [**profile** *in | out*] [**size** *size*] [**min-ttl** *vc-label-ttl*] [**max-ttl** *vc-label-ttl*] [**probe-count** *send-count*] [**return-control**] [**time-out** *timeout*] [**interval** *interval*]

## Show Commands

```

show
 — eth-cfm
 — association [ma-index] [detail]
 — cfm-stack-table [port [port-id [vlan vlan-id]]| sdp sdp-id[:vc-id]][level 0..7] [direction up | down]
 — cfm-stack-table
 — cfm-stack-table port [{all-ports | all-sdps | all-virtuals}][level 0..7][direction up | down]
 — cfm-stack-table port-id [vlan qtag [qtag]] [level 0..7] [direction up | down]
 — cfm-stack-table sdp sdp-id[:vc-id] [level 0..7][direction up | down]
 — cfm-stack-table virtual service-id [level 0..7]
 — cfm-stack-table facility [{all-ports|all-lags|all-lag-ports|all-tunnel-meps| all-router-inter-
 faces}] [level 0..7] [direction up|down]
 — cfm-stack-table facility lag id [tunnel 1..4094] [level 0..7] [direction up|down]
 — cfm-stack-table facility port id [level 0..7] [direction up|down]
 — cfm-stack-table facility router-interface ip-int-name [level 0..7] [direction up|down]
 — domain [md-index] [association ma-index | all-associations] [detail]
 — mep mep-id domain md-index association ma-index [loopback] [linktrace]
 — mep mep-id domain md-index association ma-index [remote-mepid mep-id | all-remote-
 mepids]
 — mep mep-id domain md-index association ma-index eth-test-results [remote-peer mac-
 address]
 — mep mep-id domain md-index association ma-index one-way-delay-test [remote-peer mac-
 address]
 — mep mep-id domain md-index association ma-index two-way-delay-test [remote-peer mac-
 address]
 — mep mep-id domain md-index association ma-index two-way-slm-test [remote-peer mac-
 address]
 — mip
 — statistics
 — system-config
 — saa [test-name [owner test-owner]]
 — test-oam
 — ldp-treetrace [prefix ip-prefix/mask] [detail]

```

## Clear Commands

```

clear
 — saa [test-name [owner test-owner]]

```

## Debug Commands

```

debug
 — oam
 — lsp-ping-trace [tx | rx | both] [raw | detail]
 — no lsp-ping-trace

```