

# VPLS Show Commands

## active-subscribers

<b>Syntax</b>	<b>active-subscribers summary</b> <b>active-subscribers</b> [ <b>subscriber</b> <i>sub-ident-string</i> [ <b>sap</b> <i>sap-id</i> <b>sla-profile</b> <i>sla-profile-name</i> ]] <b>[detail]</b> <b>active-subscribers hierarchy</b> [ <b>subscriber</b> <i>sub-ident-string</i> ]
<b>Context</b>	show>service
<b>Description</b>	This command displays active subscriber information.
<b>Parameters</b>	<b>sap</b> <i>sap-id</i> — Displays SAP information for the specified SAP ID. See <a href="#">Common CLI Command Descriptions on page 1271</a> for <i>sap-id</i> command syntax. <b>sla-profile</b> <i>sla-profile-name</i> — Displays information for the specified SLA profile name. <b>summary</b> — Displays active subscriber information in a brief format. <b>subscriber</b> <i>sub-ident-string</i> — Displays information for the specified subscriber identification string. <b>hierarchy</b> — Displays the subscriber hierarchy. <b>detail</b> — Displays detailed output.

### Sample Output

```
A:Dut-A# show service active-subscribers summary
=====
Active Subscriber table summary
=====
Total Count      : 6
=====
A:Dut-A#

A:Dut-A# show service active-subscribers hierarchy
=====
Active Subscriber hierarchy
=====
-- alcatel_100 (sub_default)
|
|-- sap:1/2/1:100 - sla:sla_default
| |
| |-- 10.100.1.3 - 00:10:00:00:00:01 (-/D/-)
| |
|
|-- sap:1/2/1:101 - sla:sla_default
| |
| |-- 10.100.1.4 - 00:10:00:00:00:02 (-/D/-)
| |
|
```

## Show, Clear, Debug Commands

```
|-- sap:1/2/1:102 - sla:sla_default
| |
| | |-- 10.100.1.5 - 00:10:00:00:00:03 (-/D/-)
| |
|
-- alcatel_110 (sub_default)
|
|-- sap:1/2/1:110 - sla:sla_default
| |
| | |-- 10.110.1.3 - 00:10:10:00:00:01 (-/D/-)
| |
|
|-- sap:1/2/1:111 - sla:sla_default
| |
| | |-- 10.110.1.4 - 00:10:10:00:00:02 (-/D/-)
| |
|
|-- sap:1/2/1:112 - sla:sla_default
| |
| | |-- 10.110.1.5 - 00:10:10:00:00:03 (-/D/-)
| |
|
-- alcatel_120 (sub_default)
|
|-- sap:1/2/1:120 - sla:sla_default
| |
| | |-- 10.120.1.3 - 00:10:20:00:00:01 (-/D/-)
| |
|
|-- sap:1/2/1:121 - sla:sla_default
| |
| | |-- 10.120.1.4 - 00:10:20:00:00:02 (-/D/-)
| |
|
|-- sap:1/2/1:122 - sla:sla_prof120_VOIP
| |
| | |-- 10.120.1.5 - 00:10:20:00:00:03 (-/D/-)
| |
|
-- alcatel_130 (sub_default)
|
|-- sap:1/2/1:130 - sla:sla_default
| |
| | |-- 10.130.1.3 - 00:10:30:00:00:01 (-/D/-)
| |
|
-- alcatel_140 (sub_default)
|
|-- sap:1/2/1:140 - sla:sla_default
| |
| | |-- 10.140.1.3 - 00:10:40:00:00:01 (-/D/-)
| |
|
-- alcatel_80 (sub_default)
|
|-- sap:1/2/1:80 - sla:sla_default
| |
| | |-- 10.80.1.3 - 00:80:00:00:00:01 (-/D/-)
| |
| | |-- 10.80.1.4 - 00:80:00:00:00:02 (-/D/-)
| |
|
```

```

| |-- 10.80.1.5 - 00:80:00:00:00:03 (-/D/-)
| |
-- alcatel_81 (sub_prof81)
|
|-- sap:1/2/1:80 - sla:sla_prof81_VOIP
| |
| |-- 10.80.1.6 - 00:80:00:00:00:04 (-/D/-)
| |
-- alcatel_90 (sub_default)
|
|-- sap:1/2/1:90 - sla:sla_default
| |
| |-- 10.90.1.3 - 00:90:00:00:00:01 (-/D/-)
| |
-- client_PC1 (sub_profPC1)
|
|-- sap:1/2/2:4000 - sla:sla_profPC1
| |
| |-- 0.0.0.0 - 00:00:00:00:00:00 (-/-/N)
| |
| |-- 10.24.1.253 - 00:13:21:67:a4:cd (-/D/-)
| |
|
|-- sap:lag-1 - sla:sla_profPC1
| |
| |-- 1.2.3.4 - 00:05:04:03:02:01 (S/-/-)
| |
-- static (sub_default)
|
|-- sap:1/2/1:80 - sla:sla_default
| |
| |-- 10.80.123.123 - 00:00:12:34:56:78 (S/-/-)
| |
=====
A:Dut-A#

A:Dut-A# show service active-subscribers subscriber alcatel_100 hierarchy
=====
Active Subscriber hierarchy
=====
-- alcatel_100 (sub_prof100)
|
|-- sap:1/2/1:101 - sla:sla_prof100_VOIP
| |
| |-- 10.100.1.4 - 00:10:00:00:00:02 (-/D/-)
| |
|
|-- sap:1/2/1:102 - sla:sla_default
| |
| |-- 10.100.1.5 - 00:10:00:00:00:03 (-/D/-)
| |
=====
A:Dut-A#

```

## Show, Clear, Debug Commands

```
A:Dut-A# show service active-subscribers subscriber alcatel_100
=====
Active Subscribers
-----
Subscriber alcatel_100 (sub_default)
-----
(1) SLA Profile Instance sap:1/2/1:100 - sla:sla_default
-----
IP Address      MAC Address      Origin(*)
-----
10.100.1.3      00:10:00:00:00:01 -/D/-
-----
(2) SLA Profile Instance sap:1/2/1:101 - sla:sla_default
-----
IP Address      MAC Address      Origin(*)
-----
10.100.1.4      00:10:00:00:00:02 -/D/-
-----
(3) SLA Profile Instance sap:1/2/1:102 - sla:sla_default
-----
IP Address      MAC Address      Origin(*)
-----
10.100.1.5      00:10:00:00:00:03 -/D/-
=====
(*) S=Static Host, D=DHCP Lease, N=Non-Sub-Traffic
=====
A:Dut-A#

A:Dut-A# show service active-subscribers subscriber alcatel_100 sap 1/2/1:100 sla-
profile sla_default
=====
Active Subscribers
=====
Subscriber alcatel_100 (sub_default)
-----
(1) SLA Profile Instance sap:1/2/1:100 - sla:sla_default
-----
IP Address      MAC Address      Origin(*)
-----
10.100.1.3      00:10:00:00:00:01 -/D/-
=====
(*) S=Static Host, D=DHCP Lease, N=Non-Sub-Traffic
=====
A:Dut-A#

A:Dut-A# show service active-subscribers subscriber alcatel_100 sap 1/2/1:100 sla-
profile sla_default detail
=====
Active Subscribers
=====
Subscriber alcatel_100 (sub_default)
-----
I. Sched. Policy : service_all
E. Sched. Policy : service_all
Acct. Policy      : N/A                               Collect Stats : Disabled
-----
(1) SLA Profile Instance
    - sap:1/2/1:100 (VPLS 100)
    - sla:sla_default
```

```

-----
Host Limit           : No Limit
Ingress Qos-Policy  : 1000           Egress Qos-Policy : 1000
Ingress Queuing Type : Service-queuing
Ingress Filter-Id   : N/A           Egress Filter-Id  : N/A
-----

```

```

-----
IP Address      MAC Address      Origin(*)
-----
10.100.1.3     00:10:00:00:00:01  -/D/-
-----

```

```

-----
SLA Profile Instance statistics
-----

```

```

-----
                Packets           Octets
Off. HiPrio      : 0                0
Off. LowPrio     : 42361           8639977
Off. Uncolor     : 0                0
-----

```

```

Queueing Stats (Ingress QoS Policy 1000)
-----

```

```

Dro. HiPrio      : 0                0
Dro. LowPrio     : 6783            1392451
For. InProf      : 0                0
For. OutProf     : 35392           7211148
-----

```

```

Queueing Stats (Egress QoS Policy 1000)
-----

```

```

Dro. InProf      : 6599            1347340
Dro. OutProf     : 0                0
For. InProf      : 34364           7011246
For. OutProf     : 0                0
-----

```

```

-----
SLA Profile Instance per Queue statistics
-----

```

```

-----
                Packets           Octets
Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio      : 0                0
Off. LowPrio     : 0                0
Off. Uncolor     : 0                0
Dro. HiPrio      : 0                0
Dro. LowPrio     : 0                0
For. InProf      : 0                0
For. OutProf     : 0                0
-----

```

```

Ingress Queue 2 (Unicast) (Priority)
-----

```

```

Off. HiPrio      : 0                0
Off. LowPrio     : 0                0
Off. Uncolor     : 0                0
Dro. HiPrio      : 0                0
Dro. LowPrio     : 0                0
For. InProf      : 0                0
For. OutProf     : 0                0
-----

```

```

Ingress Queue 3 (Unicast) (Priority)
-----

```

```

Off. HiPrio      : 0                0
Off. LowPrio     : 42361           8639977
Off. Uncolor     : 0                0
Dro. HiPrio      : 0                0
Dro. LowPrio     : 6783            1392451
For. InProf      : 0                0
For. OutProf     : 35392           7211148
-----

```

```

Ingress Queue 11 (Multipoint) (Priority)
-----

```

```

Off. HiPrio      : 0                0
-----

```

## Show, Clear, Debug Commands

```
Off. LowPrio           : 0           0
Off. Uncolor          : 0           0
Dro. HiPrio           : 0           0
Dro. LowPrio          : 0           0
For. InProf           : 0           0
For. OutProf          : 0           0

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

Egress Queue 2
Dro. InProf           : 0           0
Dro. OutProf          : 0           0
For. InProf           : 0           0
For. OutProf          : 0           0

Egress Queue 3
Dro. InProf           : 6599        1347340
Dro. OutProf          : 0           0
For. InProf           : 34364       7011246
For. OutProf          : 0           0
```

```
=====
(*) S=Static Host, D=DHCP Lease, N=Non-Sub-Traffic
A:Dut-A#
```

## egress-label

- Syntax** `egress-label egress-label1 [egress-label2]`
- Context** `show>service`
- Description** This command displays service information using the range of egress labels. If only the mandatory *egress-label1* parameter is specified, only services using the specified label are displayed. If both *egress-label1* and *egress-label2* parameters are specified, the services using the range of labels X where *egress-label1* <= X <= *egress-label2* are displayed. Use the **show router ldp bindings** command to display dynamic labels.
- Parameters** *egress-label1* — The starting egress label value for which to display services using the label range. If only *egress-label1* is specified, services only using *egress-label1* are displayed.
- Values** 0, 2049 — 131071
- egress-label2* — The ending egress label value for which to display services using the label range.
- Default** The *egress-label1* value.
- Values** 2049 — 131071

**Output** **Show Service Egress Command Output** — The following table describes show service egress label output fields.

Label	Description
Svc Id	The ID that identifies a service.
Sdp Id	The ID that identifies an SDP.
Type	Indicates whether the SDP binding is a spoke or a mesh.
I. Lbl	The VC label used by the far-end device to send packets to this device in this service by the SDP.
E. Lbl	The VC label used by this device to send packets to the far-end device in this service by the SDP.
Number of bindings found	The total number of SDP bindings that exist within the specified egress label range.

### Sample Output

```
*A:ALA-12# show service egress-label 0 10000
=====
Martini Service Labels
=====
Svc Id      Sdp Id      Type I.Lbl      E.Lbl
-----
1           10:1        Mesh 0         0
1           20:1        Mesh 0         0
1           30:1        Mesh 0         0
1           100:1       Mesh 0         0
...
1           107:1       Mesh 0         0
1           108:1       Mesh 0         0
1           300:1       Mesh 0         0
1           301:1       Mesh 0         0
1           302:1       Mesh 0         0
1           400:1       Mesh 0         0
1           500:2       Spok 131070    2001
1           501:1       Mesh 131069    2000
100        300:100     Spok 0         0
200        301:200     Spok 0         0
300        302:300     Spok 0         0
400        400:400     Spok 0         0
-----
Number of Bindings Found : 23
=====
*A:ALA-12#
```

### fdb-info

**Syntax** **fdb-info**

**Context** show>service

**Description** Displays global FDB usage information.

**Output** **Show FDB-Info Command Output** — The following table describes show FDB-Info command output.

Label	Description
Service ID	The value that identifies a service.
Mac Move	Indicates the administrative state of the MAC movement feature associated with the service.
Mac Move Rate	The maximum rate at which MAC's can be re-learned in this TLS service, before the SAP where the moving MAC was last seen is automatically disabled in order to protect the system against undetected loops or duplicate MAC's. The rate is computed as the maximum number of re-learns allowed in a 5 second interval. The default rate of 10 re-learns per second corresponds to 50 re-learns in a 5 second period.
Mac Move Timeout	Indicates the time in seconds to wait before a SAP that has been disabled after exceeding the maximum re-learn rate is re-enabled. A value of zero indicates that the SAP will not be automatically re-enabled after being disabled. If after the SAP is re-enabled it is disabled again, the effective retry timeout is doubled in order to avoid thrashing.
Table Size	The maximum number of learned and static entries allowed in the FDB.
Total Count	The current number of entries (both learned and static) in the FDB of this service.
Learned Count	The current number of learned entries in the FDB of this service.
Static Count	The current number of static entries in the FDB of this service.
Remote Age	The number of seconds used to age out FDB entries learned on an SDP. These entries correspond to MAC addresses learned on remote SAPs.
Local Age	The seconds used to age out FDB entries learned on local SAPs.
High WaterMark	The utilization of the FDB table of this service at which a 'table full' alarm is raised by the agent.
Low WaterMark	The utilization of the FDB table of this service at which a 'table full' alarm is cleared by the agent.
Mac Learning	Specifies whether the MAC learning process is enabled in this service.
Discard Unknown	Specifies whether frames received with an unknown destination MAC are discarded in this service.
MAC Aging	Specifies whether the MAC aging process is enabled in this service.
MAC Pinning	Specifies whether MAC pinning is enabled in this service.



Label	Description (Continued)
Relearn Only	When enabled, indicates that either the FDB table of this service is full or that the maximum system-wide number of MAC's supported by the agent has been reached, and thus MAC learning is temporary disabled, and only MAC re-learns can take place.
Total Service FDB	The current number of service FDBs configured on this node.
Total FDB Configured Size	The sum of configured FDBs.
Total FDB Entries In Use	The total number of entries (both learned and static) in use.

### Sample Output

```
*A:ALA-12# show service fdb-info
=====
Forwarding Database (FDB) Information
=====
Service Id      : 700           Mac Move       : Disabled
Mac Move Rate   : 10           Mac Move Timeout : 10
Table Size      : 250           Total Count    : 0
Learned Count   : 0           Static Count   : 0
Remote Age      : 900           Local Age      : 300
High WaterMark  : 95%          Low Watermark  : 90%
Mac Aging       : Enabl        Relearn Only   : False
Service Id      : 725           Mac Move       : Disabled
Mac Move Rate   : 10           Mac Move Timeout : 10
Table Size      : 250           Total Count    : 0
Learned Count   : 0           Static Count   : 0
Remote Age      : 900           Local Age      : 300
High WaterMark  : 95%          Low Watermark  : 90%
Mac Learning    : Enabl        Discard Unknown : Dsabl
Mac Aging       : Enabl        Relearn Only   : False
Service Id      : 740           Mac Move       : Disabled
Mac Move Rate   : 10           Mac Move Timeout : 10
Table Size      : 250           Total Count    : 0
Learned Count   : 0           Static Count   : 0
Remote Age      : 900           Local Age      : 300
High WaterMark  : 95%          Low Watermark  : 90%
Mac Learning    : Enabl        Discard Unknown : Dsabl
Mac Aging       : Enabl        Relearn Only   : False
...
-----
Total Service FDBs : 7
Total FDB Configured Size : 1750
Total FDB Entries In Use : 0
=====
A:*A:ALA-48#
```

## fdb-mac

- Syntax** `fdb-mac ieee-address [expiry]`
- Context** `show>service`
- Description** This command displays the FDB entry for a given MAC address.
- Parameters**
  - ieee-address* — The 48-bit MAC address for which to display the FDB entry in the form *aa:bb:cc:dd:ee:ff* or *aa-bb-cc-dd-ee-ff* where *aa*, *bb*, *cc*, *dd*, *ee* and *ff* are hexadecimal numbers.
  - expiry* — Shows the time until the MAC is aged out.
- Output** **Show FDB-MAC Command Output** — The following table describes the show FDB MAC command output fields:

Label	Description
Service ID	The service ID number.
MAC	The specified MAC address
Source-Identifier	The location where the MAC is defined.
Type/Age	<p>Static — FDB entries created by management.</p> <p>Learned — Dynamic entries created by the learning process.</p> <p>OAM — Entries created by the OAM process.</p> <p>H — Host, the entry added by the system for a static configured subscriber host.</p> <p>D or DHCP — DHCP-installed MAC. Learned addresses can be temporarily frozen by the DHCP snooping application for the duration of a DHCP lease.</p> <p>P — Indicates the MAC is protected by the MAC protection feature.</p>

### Sample Output

```
*A:ian2# show service fdb-mac
=====
Service Forwarding Database
=====
ServId   MAC                Source-Identifier   Type   Last Change
                Age
-----
1        00:00:00:00:00:01  sap:1/1/1          LP/0   01/07/2011 20:25:34
1        00:00:00:00:00:02  sap:1/1/2          L/0    01/07/2011 20:26:25
1        00:00:00:00:00:03  sap:1/1/1          A/0    01/07/2011 20:25:34
-----
No. of Entries: 2
-----
Legend: L=Learned; P=MAC is protected; A=Auto learn protected
=====
*A:ian2#
```

The following shows the protected MACs in the FDB.

```
A:term17>config>service>vpls>sap>arp-host# show service id 12 fdb detail

=====
Forwarding Database, Service 12
=====
ServId      MAC                Source-Identifier    Type      Last Change
Age
-----
12          00:00:07:00:00:00  sdp:8:1             LP/0      10/03/11 10:46:00
12          00:00:07:00:00:01  sdp:8:1             LP/0      10/03/11 10:46:00
12          00:00:07:00:00:62  sdp:8:1             LP/0      10/03/11 10:46:01
12          00:00:07:00:00:63  sdp:8:1             LP/0      10/03/11 10:46:01
12          00:11:11:11:11:11  sap:lag-100:12      Static:P   10/03/11 09:42:02
12          00:11:11:11:11:22  sap:lag-1:123       Static     10/03/11 09:42:02
12          00:11:11:11:11:33  sdp:8:1             Static:P   10/03/11 09:42:02
12          00:11:11:11:11:44  sap:2/1/3:13        Static     10/03/11 09:42:02
12          00:11:11:11:11:55  a(8:80)             Static     10/03/11 09:42:02
12          00:11:11:11:11:66  sdp:8:10            Static     10/03/11 09:42:02
12          00:11:11:11:11:77  sap:2/1/3:15        Static     10/03/11 09:42:02
12          00:11:11:11:11:88  sap:2/1/3:14        Static     10/03/11 09:42:02
12          76:1e:ff:00:00:b2  cpm                 Host       10/03/11 09:42:02
-----
No. of MAC Entries: 109
```

The following shows whether restrict-protected-src or restrict-unprotected-dst are enabled on SDPs.

```
*A:ian1# show service id 1 sdp 1:1 detail

=====
Service Destination Point (Sdp Id : 1:1) Details
=====
-----
Sdp Id 1:1  -(1.1.1.2)
-----
...
Flags                : RxProtSrcMac
...
Restr MacProt Src    : Enabled                Restr MacUnpr Dst : Disabled
```

## ingress-label

**Syntax** `ingress-label start-label [end-label]`

**Context** `show>service`

**Description** Display services using the range of ingress labels.

If only the mandatory *start-label* parameter is specified, only services using the specified label are displayed.

If both *start-label* and *end-label* parameters are specified, the services using the range of labels X where *start-label* <= X <= *end-label* are displayed.

Use the **show router ldp bindings** command to display dynamic labels.

## Show, Clear, Debug Commands

**Parameters** *start-label* — The starting ingress label value for which to display services using the label range. If only *start-label* is specified, services only using *start-label* are displayed.

**Values** 0, 2048 — 131071

*end-label* — The ending ingress label value for which to display services using the label range.

**Default** The *start-label* value.

**Values** 2049 — 131071

**Output** **Show Service Ingress-Label** — The following table describes show service ingress-label output fields.

Label	Description
Svc ID	The service identifier.
SDP Id	The SDP identifier.
Type	Indicates whether the SDP is spoke or mesh.
I.Lbl	The ingress label used by the far-end device to send packets to this device in this service by the SDP.
E.Lbl	The egress label used by this device to send packets to the far-end device in this service by the SDP.
Number of Bindings Found	The number of SDP bindings within the label range specified.

### Sample Output

```
*A:ALA-12# show service ingress-label 0
```

```
=====
```

```
Martini Service Labels
```

```
=====
```

Svc Id	Sdp Id	Type	I.Lbl	E.Lbl
1	10:1	Mesh	0	0
1	20:1	Mesh	0	0
1	30:1	Mesh	0	0
1	50:1	Mesh	0	0
1	100:1	Mesh	0	0
1	101:1	Mesh	0	0
1	102:1	Mesh	0	0
1	103:1	Mesh	0	0
1	104:1	Mesh	0	0
1	105:1	Mesh	0	0
1	106:1	Mesh	0	0
1	107:1	Mesh	0	0
1	108:1	Mesh	0	0
1	300:1	Mesh	0	0
1	301:1	Mesh	0	0
1	302:1	Mesh	0	0
1	400:1	Mesh	0	0
100	300:100	Spok	0	0
200	301:200	Spok	0	0
300	302:300	Spok	0	0

```
400          400:400          Spok 0          0
```

```
-----  
Number of Bindings Found : 21  
-----
```

```
*A:ALA-12#
```

## sap-using

```
sap-using [msap] [dyn-script] [description]  
sap-using [sap sap-id] [vlan-translation | anti-spoof]  
sap-using app-profile app-profile-name  
sap-using authentication-policy policy-name [msap]  
sap-using encap-type encap-type  
sap-using eth-cfm collect-lmm-stats [sap sap-id]  
sap-using eth-ring [ring-id eth-ring-id]  
sap-using eth-tunnel [tunnel-id eth-tunnel-id]  
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 [msap]  
sap-using interface ip-address|ip-int-name [msap]  
sap-using mc-ring peer ip-address ring sync-tag  
sap-using process-cpm-traffic-on-sap-down  
sap-using etree
```

**Context** show>service

**Description** This command displays SAP information.

If no optional parameters are specified, the command displays a summary of all defined SAPs. The optional parameters restrict output to only SAPs matching the specified properties.

**Parameters** **ingress** — Specifies matching an ingress policy.

**egress** — Specifies matching an egress policy.

**qos-policy** *qos-policy-id* — The ingress or egress QoS Policy ID for which to display matching SAPs.

**Values** 1 — 65535

**atm-td-profile** *td-profile-id* — Displays SAPs using this traffic description.

**filter** *filter-id* — The ingress or egress filter policy ID for which to display matching SAPs.

**Values** 1 — 65535

**dyn-script** — Displays dynamic service SAPs information.

**authentication** *auth-plcy-name* — The session authentication policy for which to display matching SAPs.

*sap-id* — Specifies the physical port identifier portion of the SAP definition. See [Common CLI Command Descriptions on page 1271](#) for command syntax.

**interface** — Specifies matching SAPs with the specified IP interface.

## Show, Clear, Debug Commands

*ip-address* — The IP address of the interface for which to display matching SAPs.

**Values** 1.0.0.0 — 223.255.255.255

*ip-int-name* — The IP interface name for which to display matching SAPs.

**etree** — Specifies matching of SAPs configured as E-Tree SAPs and the corresponding role in the E-Tree services: Leaf-AC, Root-AC or Root-leaf-tag SAPs. SAPs listed as Root-leaf-tag "Disabled" and Leaf-Ac "Disabled" function as Root-AC SAPs.

**Output** **Show Service SAP** — The following table describes show service SAP output fields:

Label	Description
Port ID	The ID of the access port where the SAP is defined.
Svc ID	The service identifier.
SapMTU	The SAP MTU value.
I.QoS	The SAP ingress QoS policy number specified on the ingress SAP.
I.MAC/IP	The MAC or IP filter policy ID applied to the ingress SAP.
Egr. Fltr	The filter policy ID applied to the egress SAP.
A.Pol	The accounting policy ID assigned to the SAP.
Adm	The administrative state of the SAP.
Opr	The actual state of the SAP.
<b>Etree SAP Information</b>	
Svc ID	The service identifier.
SAP	The root SAP including the outer tag used by the root frames.
Leaf-Tag	The outer tag used by the leaf frames on the referred SAP.
Root-Leaf-Tag	The state of the root leaf tag SAPs.
Leaf-AC	The state of the leaf AC SAPs.

### Sample Output

```
A:ALA-701# show service sap-using
=====
Service Access Points
=====
PortId          SvcId      Ing.  Ing.  Egr.  Egr.  Anti  Adm  Opr
                QoS   Fltr  QoS   Fltr  Spoof
-----
1/1/3           10203041  1    ip4   1     none  none  Up  Up
1/1/4           10203042  1    none  1     ip4   none  Up  Up
-----
Number of SAPs : 2
=====
```

```
A:ALA-701#
```

```
show service sap-using process-cpm-traffic-on-sap-down
```

```
=====
```

```
SAP Ignore Sap Lag Down Information
```

```
=====
```

SAP	Svc Id	Ignore SapLag Down
lag-1:1100.*	1100	enabled

```
-----
```

```
Number of lag saps: 1
```

```
=====
```

**Sample Output**

The following is sample output for VPLS E-Tree configured SAPs.

```
*A:DutA# show service sap-using etree
=====
Etree SAP Information
=====
Svc Id      SAP                               Leaf-Tag  Root-   Leaf-Ac
                               leaf-tag
-----
2005        1/1/1:2005                        0         Disabled Enabled
2005        1/1/7:2006.200                    2007      Enabled  N/A
2005        1/1/7:0.*                          0         Disabled Disabled
2005        1/1/7:2005.*                       0         Disabled Disabled
2005        1/1/8:1                             0         Disabled Disabled
-----
Number of etree saps: 5
=====
```

sdp

**Syntax** **sdp** [*sdp-id* | **far-end** *ip-address*] [**detail** | **keep-alive-history**]  
**sdp** [*sdp-id*[:*vc-id*] | **far-end** *ip-address*]  
**sdp** [*sdp-id* | **far-end** *ip-addr*] [**detail** | **keep-alive-history**]

**Context** show>service>id

**Description** This command displays information for the SDPs associated with the service.  
 If no optional parameters are specified, a summary of all associated SDPs is displayed.

**Parameters** *sdp-id* — Displays only information for the specified SDP ID. An SDP is a logical mechanism that ties a far-end or 7750 SR to a particular service without having to specifically define far end SAPs. Each SDP represents a method to reach a router.

**Default** All SDPs.

**Values** 1 — 17407

**far-end ip-addr** — Displays only SDPs matching with the specified system IP address of the far-end destination or 7750 SR router for the Service Distribution Point (SDP) that is the termination point for a service.

**Default** SDPs with any far-end IP address.

**detail** — Displays detailed SDP information.

**Output** **Show Service SDP** — The following table describes show service-id SDP output fields.

Label	Description
Sdp Id	The SDP identifier.
Type	Indicates whether the SDP is a spoke



Label	Description (Continued)
Split Horizon Group	Name of the split horizon group where the SDP belongs.
VC Type	Displays the VC type, ether or vlan.
VC Tag	Displays the explicit dot1Q value used when encapsulating to the SDP far end.
I. Lbl	The VC label used by the far-end device to send packets to this device in this service by the SDP.
Admin Path MTU	The operating path MTU of the SDP is equal to the admin path MTU (when one is set) or the dynamically computed tunnel MTU, when no admin path MTU is set (the default case.)
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Far End	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP.
Delivery	Specifies the type of delivery used by the SDP: GRE or MPLS.
Admin State	The administrative state of this SDP.
Oper State	The operational state of this SDP.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.
Egress Label	The label used by this device to send packets to the far-end device in this service by the SDP.
Last Changed	The date and time of the most recent change to the SDP.
Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on this SDP.
Admin State	The administrative state of the Keepalive process.
Oper State	The operational state of the Keepalive process.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP.
Max Drop Count	Specifies the maximum number of consecutive SDP echo request messages that can be unacknowledged before the keepalive protocol reports a fault.
Hello Msg Len	Specifies the length of the SDP echo request messages transmitted on this SDP.
Hold Down Time	Specifies the amount of time to wait before the keepalive operating status is eligible to enter the alive state.

Label	Description (Continued)
I. Fwd. Pkts.	Specifies the number of forwarded ingress packets.
I. Dro. Pkts	Specifies the number of dropped ingress packets.
E. Fwd. Pkts.	Specifies the number of forwarded egress packets.
E. Fwd. Octets	Specifies the number of forwarded egress octets.
Associated LSP List	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the Far End field. If the SDP type is GRE, then the following message displays: SDP Delivery Mechanism is not MPLS.

### Sample Output

```
A:ALA-48# show service id <service-id> mac-protect
=====
Mac Protection
=====
ServId    MAC
-----
1         aa:aa:aa:aa:aa:ab
-----
No. of MAC Entries: 1
=====
```

## sdp-using

- Syntax** **sdp-using** [*sdp-id*[:*vc-id*] | **far-end** *ip-address*]  
**sdp-using etree**
- Context** show>service
- Description** This command displays services using SDP or far-end address options.
- Parameters** *sdp-id* — Displays only services bound to the specified SDP ID.  
**Values** 1 — 17407
- vc-id* — The virtual circuit identifier.  
**Values** 1 — 4294967295
- far-end ip-address** — Displays only services matching with the specified far-end IP address.  
**Default** Services with any far-end IP address.
- etree** — Specifies matching of SDP bindings configured as E-Tree SDP bindings and the corresponding role in the E-Tree services: Leaf-AC, Root-AC or Root-leaf-tag SDP binds. SDP binds listed as Root-leaf-tag "Disabled" and Leaf-Ac "Disabled" function as Root-AC SDP binds.
- Output** **Show Service SDP Using** — The following table describes service-using output fields.

Label	Description
Svc ID	The service identifier.
Sdp ID	The SDP identifier.
Type	Specifies the type of SDP: Spoke or Mesh.
Far End	The far-end address of the SDP.
Oper State	The operational state of the service.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.
Egress Label	The label used by this device to send packets to the far-end device in this service by this SDP.
<b>Etree SDP Bind Information</b>	
Svc ID	The service identifier.
SDP-Bind	The leaf tag SDP bind identifier.
Type	The type SDP bind.
Root-Leaf-Tag	The state of the root leaf tag SDP bind,
Leaf-AC	The state of the leaf AC SDP bind.

**Sample Output**

```
*A:ALA-1# show service sdp-using 300
=====
Service Destination Point (Sdp Id : 300)
=====
SvcId      SdpId      Type Far End      Opr State I.Label  E.Label
-----
1          300:1      Mesh 10.0.0.13      Up      131071  131071
2          300:2      Spok 10.0.0.13      Up      131070  131070
100        300:100    Mesh 10.0.0.13      Up      131069  131069
101        300:101    Mesh 10.0.0.13      Up      131068  131068
102        300:102    Mesh 10.0.0.13      Up      131067  131067
-----
Number of SDPs : 5
-----
*A:ALA-1#
```

**Sample Output**

The following is sample output for VPLS E-Tree configured SDP bindings.

```
*A:DutA# show service sdp-using etree
=====
Etree SDP-BIND Information
=====
Svc Id      SDP-BIND Information      Type      Root-  Leaf-Ac
           leaf-tag
-----
2005        12:2005                   Spoke     Enabled N/A
2005        12:2006                   Spoke     Disabled Enabled
2005        12:2007                   Spoke     Disabled Enabled
-----
Number of etree sdp-binds: 3
=====
```

service-using

**Syntax** **service-using** [epipe] [ies] [vpls] [vprn] [mirror] [b-vpls] [i-vpls] [m-vpls] [apipe] [fpipe] [ipipe] sdp *sdp-id* [customer *customer-id*]  
**service-using etree**

**Context** show>service

**Description** This command displays the services matching certain usage properties. If no optional parameters are specified, all services defined on the system are displayed.

- Parameters**
- epipe** — Displays matching Epipe services.
  - ies** — Displays matching IES instances.
  - vpls** — Displays matching VPLS instances.
  - vprn** — Displays matching VPRN services.
  - mirror** — Displays matching mirror services.

**b-vpls** — Displays matching B-VPLS services.

**i-vpls** — Displays matching I-VPLS services.

**apipe** — Displays matching Apipe services.

**fpipe** — Displays matching Fpipe services.

**ipipe** — Displays matching Ipipe services.

**sdp** *sdp-id* — Displays only services bound to the specified SDP ID.

**Default** Services bound to any SDP ID.

**Values** 1 — 17407

**customer** *customer-id* — Displays services only associated with the specified customer ID.

**Default** Services associated with a customer.

**Values** 1 — 2147483647

**etree** — Specifies matching of all VPLS services configured as E-Tree.

**Output** **Show Service Service-Using** — The following table describes show service service-using output fields:

Label	Description
Service Id	The service identifier.
Type	Specifies the service type configured for the service ID including VPLS, VPRN, VPLS-ETR, VPRN, IES and INTVPLS
Adm	The administrative state of the service.
Opr	The operating state of the service.
CustomerID	The ID of the customer who owns this service.

### Sample Output

```
*A:ALA-12# show service service-using customer 10
=====
Services
=====
ServiceId   Type      Adm    Opr      CustomerId  Last Mgmt Change
-----
1           VPLS      Up     Up       10          09/05/2006 13:24:15
100        IES       Up     Up       10          09/05/2006 13:24:15
300        Epipe     Up     Up       10          09/05/2006 13:24:15
-----
Matching Services : 3
=====
*A:ALA-12#

*A:ALA-12# show service service-using epipe
=====
Services [epipe]
=====
```

## Show, Clear, Debug Commands

```

ServiceId   Type      Adm   Opr      CustomerId   Last Mgmt Change
-----
6           Epipe    Up    Up       6            09/22/2006 23:05:58
7           Epipe    Up    Up       6            09/22/2006 23:05:58
8           Epipe    Up    Up       3            09/22/2006 23:05:58
103        Epipe    Up    Up       6            09/22/2006 23:05:58
-----

```

Matching Services : 4

\*A:ALA-12#

\*A:ALA-14# show service service-using

Services

```

ServiceId   Type      Adm   Opr      CustomerId   Last Mgmt Change
-----
10          mVPLS    Down  Down     1            10/26/2006 15:44:57
11          mVPLS    Down  Down     1            10/26/2006 15:44:57
100         mVPLS    Up    Up       1            10/26/2006 15:44:57
101         mVPLS    Up    Up       1            10/26/2006 15:44:57
102         mVPLS    Up    Up       1            10/26/2006 15:44:57
-----

```

Matching Services : 5

\*A:ALA-14#

\*A:SetupCLI# show service service-using

```

- service-using [epipe] [ies] [vpls] [mirror] [ipipe] [b-vpls] [i-vpls] [m-vpls]
[sdp <sdp-id>] [customer <customer-id>]

```

```

<epipe>          : keyword - displays epipe services
<ies>           : keyword - displays ies services
<vpls>          : keyword - displays vpls services
<mirror>        : keyword - displays mirror services
<ipipe>         : keyword - displays ipipe services
<sdp-id>        : [1..17407] - display services using this sdp
<customer-id>   : [1..2147483647] - display services using this customer
<b-vpls>        : keyword - displays b-vpls services
<i-vpls>        : keyword - displays i-vpls services
<m-vpls>        : keyword - displays m-vpls services

```

\*A:SetupCLI# show service service-using

Services

```

ServiceId   Type      Adm   Opr      CustomerId   Last Mgmt Change
-----
23          mVPLS    Up    Down     2            09/25/2007 21:45:58
100         Epipe    Up    Down     2            09/25/2007 21:45:58
101         Epipe    Up    Down     2            09/25/2007 21:45:58
102         Epipe    Up    Down     2            09/25/2007 21:45:58
105         Epipe    Up    Down     2            09/25/2007 21:45:58
110         Epipe    Up    Down     1            09/25/2007 21:45:58
990         IES      Up    Down     1            09/25/2007 21:45:58
1000        Mirror   Up    Down     1            09/25/2007 21:45:59
1001        Epipe    Up    Down     1            09/25/2007 21:45:58
1002        Epipe    Up    Down     1            09/25/2007 21:45:58
1003        Epipe    Up    Down     1            09/25/2007 21:45:58
-----

```

## VPLS Show Commands

```

1004      Epipe      Up      Down    1          09/25/2007 21:45:58
2000      Mirror     Up      Down    1          09/25/2007 21:45:59
2001      i-VPLS     Up      Down    1          09/25/2007 21:45:59
2002      b-VPLS     Up      Down    1          09/25/2007 21:45:59
2003      i-VPLS     Down   Down    1          09/25/2007 21:45:59
2004      b-mVPLS    Down   Down    1          09/25/2007 21:45:59
2005      i-mVPLS    Down   Down    1          09/25/2007 21:45:59
8787      IES         Up      Down    2          09/25/2007 21:45:58
8888      IES         Up      Down    1          09/25/2007 21:45:58
10000     IES         Down   Down    1          09/25/2007 21:45:59
10001     VPLS        Up      Down    1          09/25/2007 21:45:58
483000    Ipipe      Down   Down    2          09/25/2007 21:45:59
483001    Ipipe      Up      Down    2          09/25/2007 21:45:59
483004    Ipipe      Down   Down    2          09/25/2007 21:45:59
483007    VPLS       Down   Down    2          09/25/2007 21:45:59
483010    Ipipe      Down   Down    1          09/25/2007 21:45:59
...

```

-----  
Matching Services : 27  
-----

\*A:SetupCLI#

\*A:SetupCLI# show service service-using

=====

```

Services
=====
ServiceId   Type      Adm    Opr      CustomerId  Last Mgmt Change
-----
23          mVPLS    Up     Down     2            09/25/2007 21:45:58
100         Epipe    Up     Down     2            09/25/2007 21:45:58
101         Epipe    Up     Down     2            09/25/2007 21:45:58
102         Epipe    Up     Down     2            09/25/2007 21:45:58
105         Epipe    Up     Down     2            09/25/2007 21:45:58
110         Epipe    Up     Down     1            09/25/2007 21:45:58
990         IES      Up     Down     1            09/25/2007 21:45:58
1000        Mirror   Up     Down     1            09/25/2007 21:45:59
1001        Epipe    Up     Down     1            09/25/2007 21:45:58
1002        Epipe    Up     Down     1            09/25/2007 21:45:58
1003        Epipe    Up     Down     1            09/25/2007 21:45:58
1004        Epipe    Up     Down     1            09/25/2007 21:45:58
2000        Mirror   Up     Down     1            09/25/2007 21:45:59
2001        i-VPLS   Up     Down     1            09/25/2007 21:45:59
2002        b-VPLS   Up     Down     1            09/25/2007 21:45:59
2003        i-VPLS   Down   Down     1            09/25/2007 21:45:59
2004        b-mVPLS  Down   Down     1            09/25/2007 21:45:59
2005        i-mVPLS  Down   Down     1            09/25/2007 21:45:59
8787        IES      Up     Down     2            09/25/2007 21:45:58
8888        IES      Up     Down     1            09/25/2007 21:45:58
10000       IES      Down   Down     1            09/25/2007 21:45:59
10001       VPLS     Up     Down     1            09/25/2007 21:45:58
483000      Ipipe    Down   Down     2            09/25/2007 21:45:59
483001      Ipipe    Up     Down     2            09/25/2007 21:45:59
483004      Ipipe    Down   Down     2            09/25/2007 21:45:59
483007      VPLS     Down   Down     2            09/25/2007 21:45:59
483010      Ipipe    Down   Down     1            09/25/2007 21:45:59
...

```

-----  
Matching Services : 27  
-----

\*A:SetupCLI#

## Show, Clear, Debug Commands

```
*A:term17>config>service>epipe# show service id 2000 epipe
```

```
Related Epipe services for bVpls service 2000
```

```
=====
Epipe SvcId          Oper ISID          Admin              Oper
-----
1                    1                  Down               Down
-----
```

```
Number of Entries : 1
```

```
-----
*A:term17>config>service>epipe#
```

The following sample outputs show VPLS Services configured as E-Tree.

```
*A:DutA# show service service-using
```

```
=====
Services
```

```
=====
ServiceId  Type      Adm  Opr  CustomerId  Service Name
-----
1          VPLS      Up   Up   1           evpn-vxlan-1
2          VPRN      Up   Up   1
2005       VPLS-Etr* Up   Up   1
2006       VPRN      Up   Up   1
2147483648 IES       Up   Down 1           _tmnx_InternalIesService
2147483649 intVpls   Up   Down 1           _tmnx_InternalVplsService
-----
```

```
Matching Services : 6
```

```
-----
* indicates that the corresponding row element may have been truncated.
```

```
*A:DutA# show service service-using etree
```

```
=====
Services [etree]
```

```
=====
ServiceId  Type      Adm  Opr  CustomerId  Service Name
-----
2005       VPLS-Etr* Up   Up   1
-----
```

```
Matching Services : 1
```

```
-----
* indicates that the corresponding row element may have been truncated.
```



## subscriber-using

<b>Syntax</b>	<b>subscriber-using</b> [ <b>service-id</b> <i>service-id</i> ] [ <b>sap-id</b> <i>sap-id</i> ] [ <b>interface</b> <i>ip-int-name</i> ] [ <b>ip</b> <i>ip-address[/mask]</i> ] [ <b>mac</b> <i>ieee-address</i> ] [ <b>sub-profile</b> <i>sub-profile-name</i> ] [ <b>sla-profile</b> <i>sla-profile-name</i> ]
<b>Context</b>	show>service>subscriber-using
<b>Description</b>	This command displays subscribers using specified options.
<b>Parameters</b>	<p><b>service-id</b> <i>service-id</i> — Display subscriber information about the specified service ID.</p> <p><b>Values</b>      service-id: 1 — 214748364                   svc-name: A string up to 64 characters in length.</p> <p><b>sap-id</b> <i>sap-id</i> — Specifies the physical port identifier portion of the SAP definition. See <a href="#">Common CLI Command Descriptions on page 1271</a> for command syntax.</p> <p><b>interface</b> <i>ip-int-name</i> — Display subscriber information about the specified interface.</p> <p><b>ip</b> <i>ip-address[/mask]</i> — Display subscriber information about the specified IP address.</p> <p><b>mac</b> <i>ieee-address</i> — Display subscriber information about the specified MAC address.</p> <p><b>sub-profile</b> <i>sub-profile-name</i> — Display subscriber information about the specified subscriber profile name.</p> <p><b>sla-profile</b> <i>sla-profile-name</i> — Display subscriber information about the specified SLA profile name.</p>

## id

<b>Syntax</b>	<b>id</b> <i>service-id</i>
<b>Context</b>	show>service
<b>Description</b>	This command displays information for a particular service-id.
<b>Parameters</b>	<i>service-id</i> — The unique service identification number that identifies the service in the service domain.
	<p><b>Values</b>      service-id: 1 — 214748364                           svc-name: A string up to 64 characters in length.</p> <p><b>all</b> — Display detailed information about the service.</p> <p><b>arp</b> — Display ARP entries for the service.</p> <p><b>authentication</b> — Display subscriber authentication information</p> <p><b>base</b> — Display basic service information.</p> <p><b>dhcp</b> — Display DHCP information.</p> <p><b>endpoint</b> — Display service endpoint information.</p> <p><b>epipe</b> — Display e-pipe services associated with the b-vpls service.</p> <p><b>fdb</b> — Display FDB entries.</p> <p><b>gsmp</b> — Display GSMP information.</p> <p><b>host</b> — Display static hosts configured on the service.</p> <p><b>i-vpls</b> — Display i-vpls services associated with the b-vpls.</p> <p><b>igmp-snooping</b> — Display IGMP snooping information.</p> <p><b>interface</b> — Display service interfaces.</p> <p><b>l2-route-table</b> — Display Layer-2 route information associated with the service.</p> <p><b>l2pt</b> — Display L2PT information of SAPs and Spokes.</p> <p><b>labels</b> — Display labels being used by this service.</p> <p><b>mac-move</b> — Display Mac Move related information about the service.</p> <p><b>mac-protect</b> — Display MAC protect information.</p> <p><b>mfib</b> — Display MFIB related information.</p> <p><b>mld-snooping</b> — Display MLD snooping information.</p> <p><b>mmrp</b> — Display MMRP information.</p> <p><b>mrp</b> — Display MRP information</p> <p><b>msap</b> — Display MSAPs associated to the service.</p> <p><b>pim-snooping</b> — Display PIM snooping information.</p> <p><b>pppoe</b> — Display PPPoE information.</p> <p><b>retailers</b> — Display service retailer information.</p>

**sap** — Display SAPs associated to the service.

**sdp** — Display SDPs associated with the service.

**source-address** — Display source-address configured for applications.

**split-horizon-group** — Display split horizon group information.

**stp** — Display STP information.

**subscriber-host** — Display subscriber host information.

**wholesalers** — Display service wholesaler information.

all

- Syntax**    **all**
- Context**    show>service>id
- Description**    This command displays detailed information for all aspects of the service.
- Output**    **Show service ID all output** — The following table describes the command output fields.

Label	Description
Service Id	The service identifier.
VPN Id	The number which identifies the VPN.
Service Type	Specifies the type of service.
SDP Id	The SDP identifier.
Description	Generic information about the service.
Customer Id	The customer identifier.
Last Mgmt Change	The date and time of the most recent management-initiated change to this customer.
SAP Count	The number of SAPs specified for this service.
SDP Bind Count	The number of SDPs bound to this service.
Split Horizon Group	Name of the split horizon group for this service.
Description	Description of the split horizon group.
Last Changed	The date and time of the most recent management-initiated change to this split horizon group.
SDP Id	The SDP identifier.
Type	Indicates whether this service SDP binding is a spoke or a mesh.
Admin Path MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Delivery	Specifies the type of delivery used by the SDP: GRE or MPLS.
Admin State	The administrative state of this SDP.
Oper State	The operational state of this SDP.

Label	Description (Continued)
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.
Egress Label	The label used by this device to send packets to the far-end device in this service by this SDP.
Ingress Filter	The ID of the ingress filter policy.
Egress Filter	The ID of the egress filter policy.
Far End	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP.
Last Changed	The date and time of the most recent change to this customer.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP.
Hello Msg Len	Specifies the length of the SDP echo request messages transmitted on this SDP.
Max Drop Count	Specifies the maximum number of consecutive SDP Echo Request messages that can be unacknowledged before the keepalive protocol reports a fault.
Hold Down Time	Specifies the amount of time to wait before the keepalive operating status is eligible to enter the alive state.
SDP Delivery Mechanism	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the Far End field. If the SDP type is GRE, then the following message displays: SDP Delivery Mechanism is not MPLS
Number of SDPs	The total number SDPs applied to this service ID.
Service Id	The service identifier.
Port Id	The ID of the access port where this SAP is defined.
Description	Generic information about the SAP.
Encap Value	The value of the label used to identify this SAP on the access port.
Admin State	The administrative state of the SAP.
Oper State	The operating state of the SAP.
Last Changed	The date and time of the last change.
Admin MTU	The desired largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Oper MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.

Label	Description (Continued)
Ingress qos-policy	The SAP ingress QoS policy ID.
Egress qos-policy	The SAP egress QoS policy ID.
Ingress Filter-Id	The SAP ingress filter policy ID.
Egress Filter-Id	The SAP egress filter policy ID.
Multi Svc Site	Indicates the multi-service site that the SAP is a member.
Ingress sched-policy	Indicates the ingress QoS scheduler for the SAP.
Egress sched-policy	Indicates the egress QoS scheduler for the SAP.
Acct. Pol	Indicates the accounting policy applied to the SAP.
Collect Stats	Specifies whether accounting statistics are collected on the SAP.
Dropped	The number of packets or octets dropped.
Offered Hi Priority	The number of high priority packets, as determined by the SAP ingress QoS policy.
Offered Low Priority	The number of low priority packets, as determined by the SAP ingress QoS policy.
Offered Low Priority	The number of low priority packets, as determined by the SAP ingress QoS policy.
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded.
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded.
Dropped In Profile	The number of in-profile packets or octets discarded.
Dropped Out Profile	The number of out-of-profile packets or octets discarded.
Forwarded In Profile	The number of in-profile packets or octets (rate below CIR) forwarded.
Forwarded Out Profile	The number of out-of-profile packets or octets (rate above CIR) forwarded.
Ingress Queue 1	The index of the ingress QoS queue of this SAP.
High priority offered	The packets or octets count of the high priority traffic for the SAP.
High priority dropped	The number of high priority traffic packets/octets dropped.
Low priority offered	The packets or octets count of the low priority traffic.

Label	Description (Continued)
Low priority dropped	The number of low priority traffic packets/octets dropped.
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded.
Out profile forwarded	The number of out-of-profile octets (rate above CIR) forwarded.
Egress Queue 1	The index of the egress QoS queue of the SAP.
In profile forwarded	The number of in-profile packets or octets (rate below CIR) forwarded.
In profile dropped	The number of in-profile packets or octets dropped for the SAP.
Out profile forwarded	The number of out-of-profile packets or octets (rate above CIR) forwarded.
Out profile dropped	The number of out-of-profile packets or octets discarded.
State	Specifies whether DHCP Relay is enabled on this SAP.
Info Option	Specifies whether Option 82 processing is enabled on this SAP.
Action	Specifies the Option 82 processing on this SAP or interface: keep, replace or drop.
Circuit ID	Specifies whether the If Index is inserted in Circuit ID sub-option of Option 82.
Remote ID	Specifies whether the far-end MAC address is inserted in Remote ID sub-option of Option 82.
Managed by Service	Specifies the service-id of the management VPLS managing this SAP.
Managed by MSTI	Specifies the MST instance inside the management VPLS managing this SAP.
Last BPDU from	The bridge ID of the sender of the last BPDU received on this SAP.
Managed by SAP	Specifies the sap-id inside the management VPLS managing this SAP.
Prune state	Specifies the STP state inherited from the management VPLS.
Managed by Service	Specifies the service-id of the management VPLS managing this spoke SDP.
Last BPDU from	The bridge ID of the sender of the last BPDU received on this SAP.
Managed by Spoke	Specifies the sap-id inside the management VPLS managing this spoke SDP.
Prune state	Specifies the STP state inherited from the management VPLS.

Label	Description (Continued)
Peer Pw Bits	<p>Indicates the bits set by the LDP peer when there is a fault on its side of the pseudowire. LAC failures occur on the SAP that has been configured on the pipe service, PSN bits are set by SDP-binding failures on the pipe service. The pwNotForwarding bit is set when none of the above failures apply, such as an MTU mismatch failure. This value is only applicable if the peer is using the pseudowire status signalling method to indicate faults.</p> <p>pwNotForwarding — Pseudowire not forwarding                      lacIngressFault Local — Attachment circuit RX fault                      lacEgressFault Local — Attachment circuit TX fault                      psnIngressFault Local — PSN-facing PW RX fault                      psnEgressFault Local — PSN-facing PW TX fault                      pwFwdingStandby — Pseudowire in standby mode</p>

**Sample Output**

```

*A:ALA-48# show service id 700 all
=====
Service Detailed Information
=====
Service Id       : 700                Vpn Id           : 0
Service Type    : VPLS
Description     : IMA VPLS
Customer Id     : 7
Last Status Change: 02/02/2009 09:27:55
Last Mgmt Change : 02/02/2009 09:27:57
Admin State     : Up                  Oper State       : Down
MTU             : 1514                Def. Mesh VC Id : 700
SAP Count       : 1                   SDP Bind Count  : 2
Snd Flush on Fail : Disabled          Host Conn Verify : Disabled
Propagate MacFlush: Disabled
Def. Gateway IP : None
Def. Gateway MAC : None
=====
BGP Auto-discovery Information
=====
Admin State     : Down                Vpls Id         : None
Route Dist      : None                Prefix          : 10.10.10.103
Rte-Target Import : None              Rte-Target Export : None
Vsi-Import      : None
Vsi-Export      : None
PW-Template Id  : None
=====
Split Horizon Group specifics
=====
Split Horizon Group : DSL-group1
=====
Description     : (Not Specified)
Instance Id     : 1                   Last Change     : 02/02/2009 09:27:57
=====
Split Horizon Group : SHG_test
=====
Description     : test
Instance Id     : 2                   Last Change     : 02/02/2009 09:27:57

```



-----  
Service Destination Points (SDPs)  
-----Sdp Id 2:222 - (10.10.10.104)  
-----

```

Description      : GRE-10.10.10.104
SDP Id          : 2:222                               Type           : Spoke
Split Horiz Grp : (Not Specified)
VC Type         : Ether                               VC Tag         : n/a
Admin Path MTU  : 0                                  Oper Path MTU  : 0
Far End         : 10.10.10.104                       Delivery       : GRE

Admin State     : Up                                  Oper State     : Down
Acct. Pol      : None                                Collect Stats  : Disabled
Ingress Label  : 0                                  Egress Label   : 0
Ing mac Fltr   : n/a                                Egr mac Fltr  : n/a
Ing ip Fltr    : n/a                                Egr ip Fltr   : n/a
Ing ipv6 Fltr  : n/a                                Egr ipv6 Fltr : n/a
Admin ControlWord : Not Preferred                    Oper ControlWord : False
Last Status Change : 02/02/2009 09:27:55           Signaling     : TLDP
Last Mgmt Change  : 02/02/2009 09:27:57           Force Vlan-Vc : Disabled
Endpoint        : N/A                               Precedence    : 4
Class Fwding State : Down
Flags           : SdpOperDown
                  NoIngVCLabel NoEgrVCLabel
                  PathMTUTooSmall

Time to RetryReset : never                          Retries Left   : 3
Mac Move           : Blockable                       Blockable Level : Tertiary
Peer Pw Bits      : None
Peer Fault Ip     : None
Max Nbr of MAC Addr: No Limit                       Total MAC Addr : 0
Learned MAC Addr  : 0                               Static MAC Addr : 0

MAC Learning      : Enabled                          Discard Unkwn Srce: Disabled
BPDU Translation  : Disabled
L2PT Termination  : Disabled
MAC Pinning       : Disabled
Ignore Standby Sig : False                           Block On Mesh Fail: False

KeepAlive Information :
Admin State       : Disabled                          Oper State      : Disabled
Hello Time       : 10                                 Hello Msg Len   : 0
Max Drop Count   : 3                                 Hold Down Time  : 10

Statistics        :
I. Fwd. Pkts.    : 0                                  I. Dro. Pkts.   : 0
I. Fwd. Octs.    : 0                                  I. Dro. Octs.   : 0
E. Fwd. Pkts.    : 0                                  E. Fwd. Octets  : 0
MCAC Policy Name :
MCAC Max Unconst BW: no limit                         MCAC Max Mand BW : no limit
MCAC In use Mand BW: 0                               MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                              MCAC Avail Opnl BW: unlimited

```

```

Associated LSP LIST :
SDP Delivery Mechanism is not MPLS

```

-----  
Stp Service Destination Point specifics  
-----

```

Stp Admin State   : Up                               Stp Oper State   : Down
Core Connectivity : Down
Port Role         : Disabled                          Port State       : Discarding

```

## Show, Clear, Debug Commands

```
Port Number      : 2049                      Port Priority    : 128
Port Path Cost   : 10                        Auto Edge       : Enabled
Admin Edge       : Disabled                   Oper Edge       : False
Link Type        : Pt-pt                      BPDUs Encap    : Dot1d
Root Guard       : Disabled                   Active Protocol : Rstp
Last BPDUs from  : N/A
Designated Bridge : N/A                      Designated Port Id: 0

Fwd Transitions  : 0                          Bad BPDUs rcvd  : 0
Cfg BPDUs rcvd   : 0                          Cfg BPDUs tx    : 0
TCN BPDUs rcvd   : 0                          TCN BPDUs tx    : 0
RST BPDUs rcvd   : 0                          RST BPDUs tx    : 0
-----
Sdp Id 2:700  -(10.10.10.104)
-----
Description      : GRE-10.10.10.104
SDP Id           : 2:700                      Type            : Mesh
Split Horiz Grp  : (Not Specified)
VC Type          : Ether                      VC Tag          : n/a
Admin Path MTU   : 0                          Oper Path MTU   : 0
Far End          : 10.10.10.104               Delivery        : GRE

Admin State      : Up                          Oper State      : Down
Acct. Pol        : None                       Collect Stats   : Disabled
Ingress Label    : 0                          Egress Label    : 0
Ing mac Fltr     : n/a                       Egr mac Fltr   : n/a
Ing ip Fltr      : n/a                       Egr ip Fltr    : n/a
Ing ipv6 Fltr    : n/a                       Egr ipv6 Fltr  : n/a
Admin ControlWord : Not Preferred                 Oper ControlWord : False
Last Status Change : 02/02/2009 09:27:55       Signaling       : TLDP
Last Mgmt Change  : 02/02/2009 09:27:57       Force Vlan-Vc   : Disabled
Endpoint         : N/A                          Precedence      : 4
Class Fwding State : Down
Flags            : SdpOperDown
                  NoIngVCLabel NoEgrVCLabel
                  PathMTUTooSmall

Peer Pw Bits     : None
Peer Fault Ip    : None
MAC Pinning      : Disabled

KeepAlive Information :
Admin State      : Disabled                   Oper State      : Disabled
Hello Time       : 10                        Hello Msg Len   : 0
Max Drop Count   : 3                          Hold Down Time  : 10

Statistics       :
I. Fwd. Pkts.    : 0                          I. Dro. Pkts.   : 0
I. Fwd. Octs.    : 0                          I. Dro. Octs.   : 0
E. Fwd. Pkts.    : 0                          E. Fwd. Octets  : 0
MCAC Policy Name :
MCAC Max Unconst BW: no limit                 MCAC Max Mand BW : no limit
MCAC In use Mand BW: 0                       MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                       MCAC Avail Opnl BW: unlimited

Associated LSP LIST :
SDP Delivery Mechanism is not MPLS
-----
Number of SDPs : 2
-----
Service Access Points
-----
```

SAP 1/1/9:0

```

-----
Service Id       : 700
SAP              : 1/1/9:0                Encap           : q-tag
Description     : (Not Specified)
Admin State     : Up                    Oper State      : Down
Flags           : PortOperDown
Multi Svc Site  : None
Last Status Change : 02/02/2009 09:27:55
Last Mgmt Change  : 02/02/2009 09:27:57
Sub Type        : regular
Dot1Q Ethertype : 0x8100                QinQ Ethertype  : 0x8100
Split Horizon Group: (Not Specified)

Max Nbr of MAC Addr: No Limit          Total MAC Addr  : 0
Learned MAC Addr   : 0                 Static MAC Addr : 0
Admin MTU          : 1518              Oper MTU        : 1518
Ingr IP Fltr-Id   : n/a               Egr IP Fltr-Id  : 10
Ingr Mac Fltr-Id  : n/a               Egr Mac Fltr-Id : n/a
Ingr IPv6 Fltr-Id : n/a               Egr IPv6 Fltr-Id : n/a
tod-suite         : None                qinq-pbit-marking : both
Ing Agg Rate Limit : max                Egr Agg Rate Limit: max
Q Frame-Based Acct : Disabled
ARP Reply Agent   : Enabled             Host Conn Verify : Enabled
Mac Learning      : Enabled             Discard Unkwn Srce: Disabled
Mac Aging         : Enabled             Mac Pinning      : Disabled
BPDU Translation  : Disabled
L2PT Termination  : Disabled
Vlan-translation  : None

Acct. Pol        : None                 Collect Stats    : Disabled

Anti Spoofing    : Ip                   Avl Static Hosts : 1
                                                         Tot Static Hosts : 1

Calling-Station-Id : n/a
Application Profile: None

MCAC Policy Name  :                     MCAC Const Adm St : Enable
MCAC Max Unconst BW: no limit           MCAC Max Mand BW  : no limit
MCAC In use Mand BW: 0                  MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                  MCAC Avail Opnl BW: unlimited
Restr MacProt Src : Enabled              Restr MacUnpr Dst : Disabled
Time to RetryReset : never               Retries Left      : 3
Mac Move          : Blockable            Blockable Level   : Tertiary
Egr MCast Grp    :
Auth Policy       : none
-----

```

## Stp Service Access Point specifics

```

-----
Stp Admin State   : Up                    Stp Oper State   : Down
Core Connectivity : Down
Port Role         : Disabled
Port Number       : 2048
Port Path Cost    : 10
Admin Edge        : Disabled
Link Type         : Pt-pt
Root Guard        : Disabled
Last BPDU from    : N/A
CIST Desig Bridge : N/A

Forward transitions: 0                Bad BPDUs rcvd   : 0

Port State        : Discarding
Port Priority      : 128
Auto Edge         : Enabled
Oper Edge         : False
BPDU Encap        : Dot1d
Active Protocol    : Rstp
Designated Port   : N/A
-----

```

## Show, Clear, Debug Commands

```
Cfg BPDUs rcvd      : 0                Cfg BPDUs tx       : 0
TCN BPDUs rcvd     : 0                TCN BPDUs tx       : 0
RST BPDUs rcvd     : 0                RST BPDUs tx       : 0
MST BPDUs rcvd     : 0                MST BPDUs tx       : 0
-----
ARP host
-----
Admin State         : outOfService
Host Limit          : 1                Min Auth Interval  : 15 minutes
-----
QOS
-----
Ingress qos-policy : 100                Egress qos-policy  : 1
Shared Q plcy      : default            Multipoint shared   : Enabled
I. Sched Pol       : SLA1
E. Sched Pol       : SLA1
-----
Ingress Queue Override
-----
Queue Id            : 1 (no overrides)
-----
Egress Queue Override
-----
Queue Id            : 1 (no overrides)
-----
DHCP
-----
Description         : (Not Specified)
Admin State         : Down              Lease Populate      : 0
DHCP Snooping       : Down              Action               : Keep
Proxy Admin State   : Down
Proxy Lease Time    : N/A
Emul. Server Addr   : Not Configured
-----
Subscriber Management
-----
Admin State         : Down              MAC DA Hashing     : False
Def Sub-Id          : None
Def Sub-Profile     : None
Def SLA-Profile     : None
Def App-Profile     : None
Sub-Ident-Policy    : None

Subscriber Limit    : 1
Single-Sub-Parameters
  Prof Traffic Only : False
  Non-Sub-Traffic   : N/A
-----
Sap Statistics
-----
Last Cleared Time   : N/A

                Packets                Octets
Forwarding Engine Stats
Dropped           : 0                  0
Off. HiPrio       : 0                  0
Off. LowPrio      : 0                  0
Off. Uncolor      : 0                  0

Queueing Stats(Ingress QoS Policy 100)
```

```

Dro. HiPrio      : 0          0
Dro. LowPrio    : 0          0
For. InProf     : 0          0
For. OutProf    : 0          0

```

```

Queueing Stats(Egress QoS Policy 1)
Dro. InProf     : 0          0
Dro. OutProf    : 0          0
For. InProf     : 0          0
For. OutProf    : 0          0

```

---

Sap per Queue stats

---

	Packets	Octets
Ingress Queue 1 (Unicast) (Priority)		
Off. HiPrio	: 0	0
Off. LoPrio	: 0	0
Dro. HiPrio	: 0	0
Dro. LoPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0

Ingress Queue 10 (Unicast) (Priority)		
Off. HiPrio	: 0	0
Off. LoPrio	: 0	0
Dro. HiPrio	: 0	0
Dro. LoPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0

Ingress Queue 12 (Unicast) (Priority)		
Off. HiPrio	: 0	0
Off. LoPrio	: 0	0
Dro. HiPrio	: 0	0
Dro. LoPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0

Ingress Queue 13 (Unicast) (Priority)		
Off. HiPrio	: 0	0
Off. LoPrio	: 0	0
Dro. HiPrio	: 0	0
Dro. LoPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0

...

---

VPLS Spanning Tree Information

---

VPLS oper state	: Down	Core Connectivity	: Down
Stp Admin State	: Up	Stp Oper State	: Down
Mode	: Rstp	Vcp Active Prot.	: N/A

Bridge Id	: 10:02.90:30:ff:00:00:00	Bridge Instance Id:	2
Bridge Priority	: 4096	Tx Hold Count	: 5
Topology Change	: Inactive	Bridge Hello Time	: 5
Last Top. Change	: 0d 00:00:00	Bridge Max Age	: 25
Top. Change Count	: 0	Bridge Fwd Delay	: 20
MST region revision:	0	Bridge max hops	: 20
MST region name	:		

## Show, Clear, Debug Commands

```

Root Bridge      : N/A
Primary Bridge   : N/A

Root Path Cost   : 0
Rcvd Hello Time  : 5
Root Priority     : 4098

Root Forward Delay: 20
Root Max Age     : 25
Root Port        : N/A
  
```

---

### Forwarding Database specifics

---

```

Service Id       : 700
Primary Factor   : 3
Mac Move Rate    : 2
Mac Move Retries : 3
Table Size       : 250
Learned Count    : 0
OAM-learned Count : 0
Host-learned Count: 1
Remote Age       : 900
High Watermark   : 95%
Mac Learning     : Enabled
Mac Aging        : Enabled
Mac Subnet Len   : 48

Mac Move         : Disabled
Secondary Factor : 2
Mac Move Timeout : 10

Total Count      : 1
Static Count     : 0
DHCP-learned Count: 0

Local Age        : 300
Low Watermark    : 90%
Discard Unknown  : Disabled
Relearn Only     : False
  
```

---

### IGMP Snooping Base info

---

```

Admin State : Up
Querier     : No querier found
  
```

Sap/Sdp Id	Oper State	MRtr Port	Pim Port	Send Queries	Max Num Grps	Max Num Srcs	MVR From-VPLS	Num Grps
sap:1/1/9:0	Down	No	No	No	None	None	Local	0
sdp:2:222	Down	No	No	No	None	None	N/A	0
sdp:2:700	Down	No	No	No	None	None	N/A	0

---

### MLD Snooping Base info

---

```

Admin State : Down
Querier     : No querier found
  
```

Sap/Sdp Id	Oper State	MRtr Port	Send Queries	Max Num Groups	MVR From-VPLS	Num Groups
sap:1/1/9:0	Down	No	Disabled	No Limit	Local	0
sdp:2:222	Down	No	Disabled	No Limit	N/A	0
sdp:2:700	Down	No	Disabled	No Limit	N/A	0

---

### DHCP Summary, service 700

---

Sap/Sdp	Snoop	Used/Provided	Arp Reply Agent	Info Option	Admin State
sap:1/1/9:0	No	0/0	Yes	Keep	Down
sdp:2:222	No	N/A	N/A	N/A	N/A
sdp:2:700	No	N/A	N/A	N/A	N/A

Number of Entries : 3

---

### ARP host Summary, service 700

---

```

Sap                Used          Provided   Admin State
-----
sap:1/1/9:0        0            1          outOfService
-----
Number of SAPs : 1
-----
Service Endpoints
-----
No Endpoints found.
=====
*A:ALA-48#

*A:SetupCLI# show service id 2001 all
=====
Service Detailed Information
=====
Service Id       : 2001                Vpn Id           : 0
Service Type     : i-VPLS
Customer Id      : 1
Last Status Change: 09/25/2007 21:12:01
Last Mgmt Change : 09/25/2007 21:45:59
Admin State      : Up                    Oper State       : Down
MTU              : 1514                Def. Mesh VC Id : 2001
SAP Count        : 1                    SDP Bind Count  : 0
Snd Flush on Fail : Disabled                Host Conn Verify : Disabled
b-vpls Id        : 2002                Oper ISID       : 122
Snd Flush in bVpls: Disabled
Snd Flush in bVpls: All-from-me          b-vpls-status   : Up
                  : All-but-mine
-----
Split Horizon Group specifics
-----
Service Destination Points (SDPs)
-----
No Matching Entries
-----
Service Access Points
-----
SAP 1/1/12:2001.2001
-----
Service Id       : 2001
SAP              : 1/1/12:2001.2001      Encap            : qinq
Sub Type         : regular
QinQ Dot1p      : Default
Dot1Q Ethertype  : 0x8100                QinQ Ethertype   : 0x8100

Admin State      : Up                    Oper State       : Down
Flags           : PortOperDown
Last Status Change: 09/25/2007 21:12:01
Last Mgmt Change : 09/25/2007 21:45:59
Max Nbr of MAC Addr: No Limit                Total MAC Addr   : 0
Learned MAC Addr : 0                        Static MAC Addr  : 0
Admin MTU        : 1522                Oper MTU         : 1522
Ingress qos-policy : 1                    Egress qos-policy : 1
Shared Q plcy    : n/a                Multipoint shared : Disabled
Ingr IP Fltr-Id : n/a                Egr IP Fltr-Id  : n/a
Ingr Mac Fltr-Id : n/a                Egr Mac Fltr-Id : n/a
tod-suite        : None                qinq-pbit-marking : both
Egr Agg Rate Limit : max

```

## Show, Clear, Debug Commands

```
Q Frame-Based Acct : Disabled
Mac Learning       : Enabled
Mac Aging          : Enabled
BPDU Translation  : Disabled
L2PT Termination  : Disabled
Vlan-translation  : None
```

```
Multi Svc Site    : None
Acct. Pol         : None
Restr MacProt Src : Disabled
Mac Move          : Non Blockable
Egr MCast Grp    :
Discard Unkwn Srce: Disabled
Mac Pinning       : Disabled
Collect Stats     : Disabled
Restr MacUnpr Dst: Disabled
Mac Move Block Lvl: Tertiary
```

---

### Stp Service Access Point specifics

---

```
Stp Admin State   : Up
Core Connectivity : Down
Port Role         : N/A
Port Number       : 2049
Port Path Cost    : 10
Admin Edge        : Disabled
Link Type         : Pt-pt
Root Guard        : Disabled
Last BPDU from    : N/A
CIST Desig Bridge : N/A
Stp Oper State    : Down
Port State        : Unknown
Port Priority      : 128
Auto Edge         : Enabled
Oper Edge         : N/A
BPDU Encap        : Dot1d
Active Protocol   : N/A
Designated Port   : N/A
```

```
Forward transitions: 0
Cfg BPDUs rcvd     : 0
TCN BPDUs rcvd     : 0
RST BPDUs rcvd     : 0
MST BPDUs rcvd     : 0
Bad BPDUs rcvd     : 0
Cfg BPDUs tx       : 0
TCN BPDUs tx       : 0
RST BPDUs tx       : 0
MST BPDUs tx       : 0
```

---

### SAP MRP Information

---

```
Rx Pdus           : 0
Dropped Pdus      : 0
Rx New Event      : 0
Rx In Event       : 0
Rx Empty Event    : 0
Tx New Event      : 0
Tx In Event       : 0
Tx Empty Event    : 0
Tx Pdus           : 0
Tx Pdus           : 0
Rx Join-In Event  : 0
Rx Join Empty Evt: 0
Rx Leave Event    : 0
Tx Join-In Event  : 0
Tx Join Empty Evt: 0
Tx Leave Event    : 0
```

---

### SAP MMRP Information

---

```
MAC Address      Registered      Declared
```

```
Number of MACs=0 Registered=0 Declared=0
```

---

### Sap Statistics

---

```
Last Cleared Time : N/A
                  Packets      Octets
Forwarding Engine Stats
Dropped           : 0          0
Off. HiPrio       : 0          0
Off. LowPrio      : 0          0
Off. Uncolor      : 0          0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio       : 0          0
```



```

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

```

Queueing Stats (Egress QoS Policy 1)

```

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

```

Sap per Queue stats

```

-----
Packets          Octets
Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio      : 0          0
Off. LoPrio      : 0          0
Dro. HiPrio      : 0          0
Dro. LoPrio      : 0          0
For. InProf      : 0          0
For. OutProf     : 0          0
Ingress Queue 11 (Multipoint) (Priority)
Off. HiPrio      : 0          0
Off. LoPrio      : 0          0
Dro. HiPrio      : 0          0
Dro. LoPrio      : 0          0
For. InProf      : 0          0
For. OutProf     : 0          0
Egress Queue 1
For. InProf      : 0          0
For. OutProf     : 0          0
Dro. InProf      : 0          0
Dro. OutProf     : 0          0
-----

```

VPLS Spanning Tree Information

```

-----
VPLS oper state   : Down          Core Connectivity : Down
Stp Admin State   : Down          Stp Oper State    : Down
Mode              : Rstp          Vcp Active Prot.  : N/A
Bridge Id         : 80:00:70:ec:ff:00:00:00 Bridge Instance Id: 0
Bridge Priority    : 32768         Tx Hold Count     : 6
Topology Change   : Inactive      Bridge Hello Time  : 2
Last Top. Change  : 0d 00:00:00   Bridge Max Age    : 20
Top. Change Count : 0             Bridge Fwd Delay  : 15
MST region revision: 0            Bridge max hops   : 20
MST region name   :
Root Bridge       : N/A
Primary Bridge    : N/A
Root Path Cost    : 0              Root Forward Delay: 15
Rcvd Hello Time   : 2              Root Max Age      : 20
Root Priority      : 32768          Root Port         : N/A
-----

```

Forwarding Database specifics

```

-----
Service Id        : 2001          Mac Move          : Disabled
Primary Factor    : 3              Secondary Factor   : 2
Mac Move Rate     : 2              Mac Move Timeout  : 10
Table Size        : 250            Total Count       : 0
Learned Count     : 0              Static Count      : 0
OAM-learned Count: 0              DHCP-learned Count: 0
Host-learned Count: 0
Remote Age        : 900            Local Age         : 300
-----

```

## Show, Clear, Debug Commands

```

High WaterMark      : 95%                Low Watermark      : 90%
Mac Learning        : Enabl                Discard Unknown    : Dsabl
Mac Aging           : Dsabl                Relearn Only       : False
-----
IGMP Snooping Base info
-----
Admin State : Down
Querier      : No querier found
-----
Sap/Sdp      Oper  MRtr Pim  Send      Max Num  MVR      Num
Id           State Port Port  Queries  Groups   From-VPLS Groups
-----
sap:1/1/12:2001.2001  Down  No   No   Disabled No Limit Local    0
-----
DHCP Summary, service 2001
-----
Sap/Sdp      Snoop  Used/   Arp Reply  Info  Admin
              State Provided Agent      Option  State
-----
sap:1/1/12:2001.2001  No    0/0    No         Keep   Down
-----
Number of Entries : 1
-----
MRP Information
-----
Admin State      : Down                Failed Register Cnt: 0
Max Attributes   : 2048                Attribute Count     : 0
-----
*A:SetupCLI#

*A:SetupCLI# show service id 2002 all
-----
Service Detailed Information
=====
Service Id      : 2002                Vpn Id          : 0
Service Type    : b-VPLS
Customer Id     : 1
Last Status Change: 09/25/2007 21:12:01
Last Mgmt Change  : 09/25/2007 21:45:59
Admin State     : Up                Oper State      : Down
MTU             : 1530                Def. Mesh VC Id : 2002
SAP Count       : 2                SDP Bind Count  : 2
Snd Flush on Fail : Disabled          Host Conn Verify : Disabled
Oper Backbone Src : 00:f7:f7:f7:f7:f7
-----
Related iVpls services for bVpls service 2002
-----
iVpls SvcId    Oper ISID          Admin            Oper
-----
2001           122              Up              Down
-----
Number of Entries : 1
-----
Split Horizon Group specifics
-----
Service Destination Points (SDPs)
-----
Sdp Id 2000:2001  -(101.101.101.101)
-----
SDP Id          : 2000:2001                Type              : Spoke

```

## VPLS Show Commands

```

VC Type           : Ether                VC Tag           : n/a
Admin Path MTU    : 1500                 Oper Path MTU    : 1500
Far End           : 101.101.101.101      Delivery         : MPLS

Admin State       : Down                 Oper State       : Down
Acct. Pol        : None                 Collect Stats    : Disabled
Ingress Label    : 0                   Egress Label    : 0
Ing mac Fltr     : n/a                 Egr mac Fltr    : n/a
Admin ControlWord : Not Preferred       Oper ControlWord : False
Last Status Change : 09/25/2007 21:12:01 Signaling        : TLDP
Last Mgmt Change  : 09/25/2007 21:45:59 Force Vlan-Vc   : Disabled
Endpoint         : N/A                 Precedence      : 4
Class Fwding State : Down
Flags            : SdpOperDown SdpBindAdminDown
                  NoIngVCLabel NoEgrVCLabel
                  PathMTUTooSmall

Peer Pw Bits     : None
Peer Fault Ip    : None
Max Nbr of MAC Addr: No Limit          Total MAC Addr   : 0
Learned MAC Addr : 0                  Static MAC Addr  : 0

MAC Learning     : Enabled              Discard Unkwn Srce: Disabled
BPDU Translation : Disabled
L2PT Termination : Disabled
Ignore Standby Sig : False

KeepAlive Information :
Admin State      : Enabled              Oper State       : No response
Hello Time       : 600                 Hello Msg Len    : 1500
Max Drop Count   : 3                   Hold Down Time   : 10

Statistics       :
I. Fwd. Pkts.   : 0                   I. Dro. Pkts.   : 0
E. Fwd. Pkts.   : 0                   E. Fwd. Octets  : 0

Associated LSP LIST :
No LSPs Associate
Class-based forwarding :
-----
Class forwarding   : disabled
Default LSP        : Uknwn              Multicast LSP    : None
=====
FC Mapping Table
=====
FC Name           LSP Name
-----
No FC Mappings
-----
Stp Service Destination Point specifics
-----
Mac Move          : Blockable           Blockable Level  : Tertiary
Stp Admin State   : Up                 Stp Oper State   : Down
Core Connectivity : Down
Port Role         : N/A                 Port State       : Discarding
Port Number       : 2050                 Port Priority    : 128
Port Path Cost    : 10                 Auto Edge       : Enabled
Admin Edge        : Disabled           Oper Edge        : N/A
Link Type         : Pt-pt                 BPDU Encap      : Dot1d
Root Guard        : Disabled           Active Protocol  : N/A
Last BPDU from    : N/A
Designated Bridge : N/A                 Designated Port Id: 0

```

## Show, Clear, Debug Commands

```

Fwd Transitions      : 0
Cfg BPDUs rcvd      : 0
TCN BPDUs rcvd      : 0
RST BPDUs rcvd      : 0
Bad BPDUs rcvd      : 0
Cfg BPDUs tx         : 0
TCN BPDUs tx         : 0
RST BPDUs tx         : 0
-----
Sdp Id 2000:2001 MRP Information
-----
Rx Pdus              : 0
Dropped Pdus         : 0
Rx New Event         : 0
Rx In Event          : 0
Rx Empty Event       : 0
Tx New Event         : 0
Tx In Event          : 0
Tx Empty Event       : 0
Tx Pdus              : 0
Rx Join-In Event    : 0
Rx Join Empty Evt   : 0
Rx Leave Event       : 0
Tx Join-In Event    : 0
Tx Join Empty Evt   : 0
Tx Leave Event       : 0
-----
SDP MMRP Information
-----
MAC Address          Registered      Declared
-----
Number of MACs=0 Registered=0 Declared=0
-----
Sdp Id 2000:2002 -(101.101.101.101)
-----
SDP Id              : 2000:2002
VC Type             : Ether
Admin Path MTU      : 1500
Far End             : 101.101.101.101
Type               : Mesh
VC Tag             : n/a
Oper Path MTU      : 1500
Delivery           : MPLS

Admin State        : Down
Acct. Pol         : None
Ingress Label     : 2050
Ing mac Fltr      : n/a
Admin ControlWord : Not Preferred
Last Status Change : 09/25/2007 21:12:01
Last Mgmt Change  : 09/25/2007 21:45:58
Endpoint          : N/A
Class Fwding State : Down
Flags             : SdpOperDown SdpBindAdminDown
                  PathMTUTooSmall
Peer Pw Bits      : None
Peer Fault Ip     : None
Ignore Standby Sig : False

Oper State        : Down
Collect Stats    : Disabled
Egress Label     : 2050
Egr mac Fltr    : n/a
Oper ControlWord : False
Signaling        : TLDP
Force Vlan-Vc   : Disabled
Precedence       : 4

KeepAlive Information :
Admin State        : Enabled
Hello Time        : 600
Max Drop Count    : 3
Oper State        : No response
Hello Msg Len     : 1500
Hold Down Time    : 10

Statistics        :
I. Fwd. Pkts.    : 0
E. Fwd. Pkts.    : 0
I. Dro. Pkts.    : 0
E. Fwd. Octets   : 0

Associated LSP LIST :
No LSPs Associated
Class-based forwarding :
-----
Class forwarding   : disabled
Default LSP        : Uknwn
Multicast LSP      : None
=====

```

```

FC Mapping Table
=====
FC Name          LSP Name
-----
No FC Mappings
-----

Sdp Id 2000:2002 MRP Information
-----
Rx Pdus          : 0                      Tx Pdus          : 0
Dropped Pdus    : 0
Rx New Event     : 0                      Rx Join-In Event : 0
Rx In Event     : 0                      Rx Join Empty Evt : 0
Rx Empty Event  : 0                      Rx Leave Event   : 0
Tx New Event     : 0                      Tx Join-In Event : 0
Tx In Event     : 0                      Tx Join Empty Evt : 0
Tx Empty Event  : 0                      Tx Leave Event   : 0
-----

SDP MMRP Information
-----
MAC Address      Registered      Declared
-----
Number of MACs=0 Registered=0 Declared=0
-----
Number of SDPs : 2
-----

Service Access Points
-----
SAP 1/1/12:2002.2002
-----
Service Id      : 2002
SAP             : 1/1/12:2002.2002      Encap           : qinq
Sub Type       : regular
QinQ Dot1p     : Default
Dot1Q Ethertype : 0x8100                QinQ Ethertype  : 0x8100
PBB Ethertype  : 0x88e7

Admin State    : Down                  Oper State      : Down
Flags         : SapAdminDown
               PortOperDown PortMTUTooSmall
Last Status Change : 09/25/2007 21:12:01
Last Mgmt Change  : 09/25/2007 21:45:58
Max Nbr of MAC Addr: No Limit          Total MAC Addr  : 0
Learned MAC Addr : 0                  Static MAC Addr : 0
Admin MTU       : 1522                Oper MTU        : 1522
Ingress qos-policy : 1                Egress qos-policy : 1
Shared Q plcy   : n/a                 Multipoint shared : Disabled
Ingr Mac Fltr-Id : n/a                Egr Mac Fltr-Id  : n/a
tod-suite      : None                 qinq-pbit-marking : both
Egr Agg Rate Limit : max
Q Frame-Based Acct : Disabled
Mac Learning    : Enabled              Discard Unkwn Srce: Disabled
Mac Aging      : Enabled              Mac Pinning      : Disabled
BPDU Translation : Disabled
L2PT Termination : Disabled
Vlan-translation : None

Multi Svc Site : None
Acct. Pol     : None                  Collect Stats    : Disabled
Restr MacProt Src : Disabled          Restr MacUnpr Dst : Disabled
Mac Move      : Blockable            Mac Move Block Lvl: Tertiary
Egr MCast Grp :

```

## Show, Clear, Debug Commands

```
-----
Stp Service Access Point specifics
-----
Stp Admin State      : Up                Stp Oper State      : Down
Core Connectivity    : Down
Port Role            : N/A                Port State          : Unknown
Port Number          : 2049               Port Priority        : 128
Port Path Cost       : 10                 Auto Edge           : Enabled
Admin Edge           : Disabled            Oper Edge           : N/A
Link Type            : Pt-pt              BPDU Encap          : Dot1d
Root Guard           : Disabled            Active Protocol     : N/A
Last BPDU from       : N/A
CIST Desig Bridge    : N/A                Designated Port     : N/A

Forward transitions: 0
Cfg BPDUs rcvd       : 0                 Bad BPDUs rcvd     : 0
TCN BPDUs rcvd       : 0                 Cfg BPDUs tx       : 0
RST BPDUs rcvd       : 0                 TCN BPDUs tx       : 0
MST BPDUs rcvd       : 0                 RST BPDUs tx       : 0
MST BPDUs tx         : 0                 MST BPDUs tx       : 0
-----
SAP MRP Information
-----
Rx Pdus              : 0                 Tx Pdus             : 0
Dropped Pdus         : 0                 Tx Pdus             : 0
Rx New Event         : 0                 Rx Join-In Event   : 0
Rx In Event          : 0                 Rx Join Empty Evt  : 0
Rx Empty Event       : 0                 Rx Leave Event     : 0
Tx New Event         : 0                 Tx Join-In Event   : 0
Tx In Event          : 0                 Tx Join Empty Evt  : 0
Tx Empty Event       : 0                 Tx Leave Event     : 0
-----
SAP MMRP Information
-----
MAC Address          Registered      Declared
-----
Number of MACs=0 Registered=0 Declared=0
-----
Sap Statistics
-----
Last Cleared Time    : N/A

                                Packets          Octets
Forwarding Engine Stats
Dropped              : 0                 0
Off. HiPrio          : 0                 0
Off. LowPrio         : 0                 0
Off. Uncolor         : 0                 0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio          : 0                 0
Dro. LowPrio         : 0                 0
For. InProf          : 0                 0
For. OutProf         : 0                 0

Queueing Stats(Egress QoS Policy 1)
Dro. InProf          : 0                 0
Dro. OutProf         : 0                 0
For. InProf          : 0                 0
For. OutProf         : 0                 0
-----
Sap per Queue stats
```

```

-----
                                Packets                Octets
Ingress Queue 1 (Unicast) (Priority)
Off. HiPrio          : 0                            0
Off. LoPrio          : 0                            0
Dro. HiPrio          : 0                            0
Dro. LoPrio          : 0                            0
For. InProf          : 0                            0
For. OutProf         : 0                            0

Ingress Queue 11 (Multipoint) (Priority)
Off. HiPrio          : 0                            0
Off. LoPrio          : 0                            0
Dro. HiPrio          : 0                            0
Dro. LoPrio          : 0                            0
For. InProf          : 0                            0
For. OutProf         : 0                            0

Egress Queue 1
For. InProf          : 0                            0
For. OutProf         : 0                            0
Dro. InProf          : 0                            0
Dro. OutProf         : 0                            0
-----
SAP 1/1/30:2002
-----
Service Id           : 2002
SAP                  : 1/1/30:2002                Encap           : q-tag
Sub Type             : regular
Dot1Q Ethertype      : 0x8100                    QinQ Ethertype   : 0x8100
PBB Ethertype        : 0x88e7

Admin State          : Down                      Oper State       : Down
Flags                : SapAdminDown
                    : PortOperDown PortMTUTooSmall
Last Status Change  : 09/25/2007 21:12:01
Last Mgmt Change    : 09/25/2007 21:45:58
Max Nbr of MAC Addr: No Limit                    Total MAC Addr   : 0
Learned MAC Addr    : 0                          Static MAC Addr   : 0
Admin MTU           : 1518                        Oper MTU          : 1518
Ingress qos-policy  : 1                          Egress qos-policy : 1
Shared Q plcy       : n/a                        Multipoint shared : Disabled
Ingr Mac Fltr-Id   : n/a                        Egr Mac Fltr-Id  : n/a
tod-suite           : None                       qinq-pbit-marking : both
Egr Agg Rate Limit : max
Q Frame-Based Acct  : Disabled
Mac Learning        : Enabled                    Discard Unkwn Srce: Disabled
Mac Aging           : Enabled                    Mac Pinning       : Disabled
BPDU Translation    : Disabled
L2PT Termination    : Disabled
Vlan-translation    : None

Multi Svc Site      : None
Acct. Pol           : None                       Collect Stats     : Disabled
Restr MacProt Src   : Disabled                   Restr MacUnpr Dst : Disabled
Mac Move            : Blockable                   Mac Move Block Lvl: Tertiary
Egr MCast Grp      :

-----
Stp Service Access Point specifics

```

## Show, Clear, Debug Commands

```

-----
Stp Admin State      : Up                               Stp Oper State      : Down
Core Connectivity    : Down
Port Role            : N/A                               Port State          : Unknown
Port Number          : 2048                             Port Priority       : 128
Port Path Cost       : 10                               Auto Edge          : Enabled
Admin Edge           : Disabled                         Oper Edge          : N/A
Link Type            : Pt-pt                            BPDU Encap         : Dot1d
Root Guard           : Disabled                         Active Protocol     : N/A
Last BPDU from       : N/A
CIST Desig Bridge    : N/A                               Designated Port     : N/A

Forward transitions: 0                               Bad BPDUs rcvd     : 0
Cfg BPDUs rcvd       : 0                               Cfg BPDUs tx       : 0
TCN BPDUs rcvd       : 0                               TCN BPDUs tx       : 0
RST BPDUs rcvd       : 0                               RST BPDUs tx       : 0
MST BPDUs rcvd       : 0                               MST BPDUs tx       : 0
-----
SAP MRP Information
-----
Rx Pdus              : 0                               Tx Pdus             : 0
Dropped Pdus         : 0                               Tx Pdus             : 0
Rx New Event         : 0                               Rx Join-In Event    : 0
Rx In Event          : 0                               Rx Join Empty Evt   : 0
Rx Empty Event       : 0                               Rx Leave Event      : 0
Tx New Event         : 0                               Tx Join-In Event    : 0
Tx In Event          : 0                               Tx Join Empty Evt   : 0
Tx Empty Event       : 0                               Tx Leave Event      : 0
-----
SAP MMRP Information
-----
MAC Address          Registered          Declared
-----
Number of MACs=0 Registered=0 Declared=0
-----
Sap Statistics
-----
Last Cleared Time    : N/A
                    Packets                               Octets

Forwarding Engine Stats
Dropped              : 0                               0
Off. HiPrio          : 0                               0
Off. LowPrio         : 0                               0
Off. Uncolor         : 0                               0

Queueing Stats(Ingress QoS Policy 1)
Dro. HiPrio          : 0                               0
Dro. LowPrio         : 0                               0
For. InProf          : 0                               0
For. OutProf         : 0                               0

Queueing Stats(Egress QoS Policy 1)
Dro. InProf          : 0                               0
Dro. OutProf         : 0                               0
For. InProf          : 0                               0
For. OutProf         : 0                               0
-----
Sap per Queue stats
-----
                    Packets                               Octets
Ingress Queue 1 (Unicast) (Priority)

```



```

Off. HiPrio      : 0          0
Off. LoPrio     : 0          0
Dro. HiPrio    : 0          0
Dro. LoPrio    : 0          0
For. InProf    : 0          0
For. OutProf   : 0          0

```

Ingress Queue 11 (Multipoint) (Priority)

```

Off. HiPrio      : 0          0
Off. LoPrio     : 0          0
Dro. HiPrio    : 0          0
Dro. LoPrio    : 0          0
For. InProf    : 0          0
For. OutProf   : 0          0

```

Egress Queue 1

```

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

```

-----  
VPLS Spanning Tree Information  
-----

```

VPLS oper state : Down          Core Connectivity : Down
Stp Admin State : Down          Stp Oper State   : Down
Mode            : Rstp          Vcp Active Prot. : N/A

```

```

Bridge Id       : 80:00.70:ec:ff:00:00:00 Bridge Instance Id: 0
Bridge Priority  : 32768                Tx Hold Count     : 6
Topology Change : Inactive              Bridge Hello Time  : 2
Last Top. Change : 0d 00:00:00          Bridge Max Age    : 20
Top. Change Count : 0                   Bridge Fwd Delay  : 15
MST region revision: 0                   Bridge max hops   : 20
MST region name :

```

```

Root Bridge     : N/A
Primary Bridge  : N/A

```

```

Root Path Cost  : 0                    Root Forward Delay: 15
Rcvd Hello Time : 2                    Root Max Age      : 20
Root Priority    : 32768                 Root Port         : N/A

```

-----  
Forwarding Database specifics  
-----

```

Service Id      : 2002                Mac Move          : Disabled
Primary Factor   : 3                    Secondary Factor  : 2
Mac Move Rate    : 2                    Mac Move Timeout  : 10
Table Size      : 250                  Total Count       : 0
Learned Count   : 0                    Static Count      : 0
OAM-learned Count : 0                  DHCP-learned Count: 0
Host-learned Count: 0
Remote Age      : 900                    Local Age         : 300
High WaterMark  : 95%                   Low Watermark     : 90%
Mac Learning    : Enabl                  Discard Unknown   : Dsabl
Mac Aging       : Dsabl                  Relearn Only     : False

```

-----  
IGMP Snooping Base info  
-----

```

Admin State : Down
Querier     : No querier found

```

## Show, Clear, Debug Commands

Sap/Sdp Id	Oper State	MRtr Port	Pim Port	Send Queries	Max Num Groups	MVR From-VPLS	Num Groups
sap:1/1/12:2002.2002	Down	No	No	Disabled	No Limit	Local	0
sap:1/1/30:2002	Down	No	No	Disabled	No Limit	Local	0
sdp:2000:2001	Down	No	No	Disabled	No Limit	N/A	0
sdp:2000:2002	Down	No	No	Disabled	No Limit	N/A	0

DHCP Summary, service 2002

Sap/Sdp	Snoop	Used/ Provided	Arp Reply Agent	Info Option	Admin State
sap:1/1/12:2002.2002	No	0/0	No	Keep	Down
sap:1/1/30:2002	No	0/0	No	Keep	Down
sdp:2000:2001	No	N/A	N/A	N/A	N/A
sdp:2000:2002	No	N/A	N/A	N/A	N/A

Number of Entries : 4

MRP Information

```
Admin State      : Up
Max Attributes   : 2048
Failed Register Cnt: 0
Attribute Count  : 2
```

\*A:SetupCLI#

\*A:alcag1-R6# show service id 5000 all | match post-lines 15 eth-cfm  
eth-cfm Configuration Information

```
Md-index      : 1
Ma-index      : 1
MepId         : 51
LowestDefectPri : allDef
Defect Flags  : None
Mac Address    : 00:ae:ae:ae:ae:ae
CcmTx         : 11548
LbRxReply     : 1
LbRxBadMsdu   : 0
LbNextSequence : 3
LtRxUnexplained : 0
Direction     : Up
Admin         : Enabled
CCM-Enable    : Enabled
HighestDefect : none
CcmSequenceErr : 2
LbRxBadOrder  : 0
LbTxReply     : 2
LtNextSequence : 3
```

\*A:alcmtul-R6#

\*A:alcmtul-R6# show service id 5000 all | match post-lines 15 eth-cfm  
eth-cfm Configuration Information

```
Md-index      : 1
Ma-index      : 1
MepId         : 56
LowestDefectPri : allDef
Defect Flags  : bDefMACstatus
Mac Address    : 00:af:af:af:af:af
CcmTx         : 815
LbRxReply     : 0
LbRxBadMsdu   : 0
LbNextSequence : 3
LtRxUnexplained : 0
Direction     : Up
Admin         : Enabled
CCM-Enable    : Enabled
HighestDefect : defMACstatus
CcmSequenceErr : 0
LbRxBadOrder  : 0
LbTxReply     : 0
LtNextSequence : 1
```

```
*A:alcmtul-R6#
```

```
*A:Dut-B# show service id 1 all
```

```
=====
Service Detailed Information
=====
```

```
Service Id       : 1                Vpn Id           : 0
Service Type     : VPLS
Name             : vpls_1
Description      : (Not Specified)
Customer Id      : 1                Creation Origin   : manual
Last Status Change: 01/28/2015 21:59:54
Last Mgmt Change : 01/28/2015 21:59:54
Etree Mode       : Disabled
Admin State      : Up               Oper State        : Up
MTU              : 1514             Def. Mesh VC Id   : 1
SAP Count        : 1               SDP Bind Count    : 1
Snd Flush on Fail : Disabled        Host Conn Verify  : Disabled
Propagate MacFlush: Disabled        Per Svc Hashing   : Disabled
Allow IP Intf Bind: Disabled
Def. Gateway IP  : None
Def. Gateway MAC : None
Temp Flood Time  : Disabled         Temp Flood        : Inactive
Temp Flood Chg Cnt: 0
VSD Domain       : <none>
SPI load-balance : Disabled
```

```
-----
BGP Information
-----
```

```
-----
Split Horizon Group specifics
-----
```

```
-----
ETH-CFM service specifics
-----
```

```
Tunnel Faults      : ignore          V-Mep Extensions  : Enabled
```

```
-----
Service Destination Points (SDPs)
-----
```

```
Sdp Id 230:1  -(10.20.1.3)
```

```
-----
Description       : (Not Specified)
SDP Id            : 230:1                Type              : Spoke
Spoke Descr       : (Not Specified)
Split Horiz Grp   : (Not Specified)
Etree Root Leaf Tag: Disabled           Etree Leaf AC     : Disabled
VC Type           : Ether                VC Tag            : n/a
Admin Path MTU    : 0                    Oper Path MTU     : 1582
Delivery          : MPLS
Far End           : 10.20.1.3
Tunnel Far End    : n/a                  LSP Types         : SR-ISIS
Hash Label        : Disabled             Hash Lbl Sig Cap  : Disabled
Oper Hash Label   : Disabled
```

## Show, Clear, Debug Commands

```
Admin State           : Up
Acct. Pol             : None
Ingress Label         : 262135
Ingr Mac Fltr-Id     : n/a
Ingr IP Fltr-Id      : n/a
Ingr IPv6 Fltr-Id    : n/a
Admin ControlWord    : Not Preferred
BFD Template         : None
BFD-Enabled          : no
Last Status Change   : 01/28/2015 22:00:07
Last Mgmt Change     : 01/28/2015 21:59:53
Endpoint             : N/A
PW Status Sig        : Enabled
Force Vlan-Vc        : Disabled
Class Fwding State   : Down
Flags                : None
Time to RetryReset   : never
Mac Move             : Blockable
Local Pw Bits        : None
Peer Pw Bits         : None
Peer Fault Ip        : None
Peer Vccv CV Bits    : lspPing bfdFaultDet
Peer Vccv CC Bits    : mplsRouterAlertLabel

Oper State           : Up
Collect Stats        : Disabled
Egress Label         : 262135
Egr Mac Fltr-Id     : n/a
Egr IP Fltr-Id      : n/a
Egr IPv6 Fltr-Id    : n/a
Oper ControlWord     : False
BFD-Encap           : ipv4
Signaling            : TLDP
Precedence           : 4
Force Qinq-Vc        : Disabled
Retries Left         : 3
Blockable Level      : Tertiary

Application Profile: None
Transit Policy       : None
Max Nbr of MAC Addr : No Limit
Learned MAC Addr    : 0
OAM MAC Addr        : 0
Host MAC Addr       : 0
SPB MAC Addr        : 0
BGP EVPN Addr       : 0
Total MAC Addr      : 0
Static MAC Addr     : 0
DHCP MAC Addr       : 0
Intf MAC Addr       : 0
Cond MAC Addr       : 0
EVPN Static Addr    : 0

MAC Learning         : Enabled
MAC Aging            : Enabled
BPDU Translation     : Disabled
L2PT Termination     : Disabled
MAC Pinning          : Disabled
Ignore Standby Sig   : False
Oper Group           : (none)
Rest Prot Src Mac    : Disabled
Auto Learn Mac Prot : Disabled
Ing. Vlan Trans.    : 0
Discard Unkwn Srce : Disabled
Block On Mesh Fail  : False
Monitor Oper Grp    : (none)
RestProtSrcMacAct   : Disable

Ingress Qos Policy   : (none)
Ingress FP QGrp      : (none)
Ing FP QGrp Inst     : (none)
Egress Qos Policy    : (none)
Egress Port QGrp     : (none)
Egr Port QGrp Inst   : (none)

KeepAlive Information :
Admin State          : Disabled
Hello Time           : 10
Max Drop Count       : 3
Oper State           : Disabled
Hello Msg Len        : 0
Hold Down Time       : 10

Statistics           :
I. Fwd. Pkts.        : 0
I. Fwd. Octs.         : 0
E. Fwd. Pkts.        : 0
I. Dro. Pkts.         : 0
I. Dro. Octs.         : 0
E. Fwd. Octets       : 0
```

-----  
Control Channel Status  
-----

```

PW Status           : disabled           Refresh Timer       : <none>
Peer Status Expire  : false
Request Timer       : <none>
Acknowledgement     : false

MCAC Policy Name    :
MCAC Max Unconst BW: no limit           MCAC Max Mand BW   : no limit
MCAC In use Mand BW: 0                  MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                   MCAC Avail Opnl BW: unlimited

```

```

-----
ETH-CFM SDP-Bind specifics
-----

```

```

V-MEP Filtering     : Disabled
Squelch Levels      : None

```

```

-----
RSVP/Static LSPs
-----

```

```

Associated LSP List :
No LSPs Associated

```

```

-----
Class-based forwarding :
-----

```

```

Class forwarding    : Disabled           EnforceDSTELspFc  : Disabled
Default LSP         : Uknwn             Multicast LSP      : None

```

```

=====
FC Mapping Table
=====

```

```

FC Name             LSP Name
-----

```

```

No FC Mappings

```

```

-----
Stp Service Destination Point specifics
-----

```

```

Stp Admin State     : Up                Stp Oper State     : Down
Core Connectivity   : Down
Port Role           : N/A                Port State         : Forwarding
Port Number         : 0                  Port Priority      : 128
Port Path Cost      : 10                 Auto Edge         : Enabled
Admin Edge          : Disabled           Oper Edge         : N/A
Link Type           : Pt-pt              BPDU Encap        : Dot1d
Root Guard          : Disabled           Active Protocol    : N/A
Last BPDU from      : N/A                Designated Port Id: 0
Designated Bridge   : N/A

Fwd Transitions     : 0                Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd     : 0                Cfg BPDUs tx      : 0
TCN BPDUs rcvd     : 0                TCN BPDUs tx      : 0
TC bit BPDUs rcvd  : 0                TC bit BPDUs tx   : 0
RST BPDUs rcvd     : 0                RST BPDUs tx      : 0

```

```

-----
Number of SDPs : 1
-----

```

```

-----
Service Access Points
-----

```

## Show, Clear, Debug Commands

```
-----  
SAP 1/1/8:1.1  
-----  
Service Id          : 1  
SAP                 : 1/1/8:1.1          Encap           : qinq  
QinQ Dot1p         : Default  
Description         : (Not Specified)  
Admin State        : Up                 Oper State       : Up  
Flags              : None  
Multi Svc Site     : None  
Last Status Change : 01/28/2015 21:59:54  
Last Mgmt Change   : 01/28/2015 21:59:53  
Sub Type           : regular  
Dot1Q Ethertype    : 0x8100           QinQ Ethertype   : 0x8100  
Split Horizon Group: (Not Specified)  
  
Etree Root Leaf Tag: Disabled          Etree Leaf Tag   : 0  
Etree Leaf AC      : Disabled  
Max Nbr of MAC Addr: No Limit          Total MAC Addr   : 0  
Learned MAC Addr   : 0                 Static MAC Addr   : 0  
OAM MAC Addr       : 0                 DHCP MAC Addr     : 0  
Host MAC Addr      : 0                 Intf MAC Addr     : 0  
SPB MAC Addr       : 0                 Cond MAC Addr     : 0  
BGP EVPN Addr      : 0                 EVPN Static Addr : 0  
Admin MTU          : 1522              Oper MTU          : 1522  
Ingr IP Fltr-Id    : n/a              Egr IP Fltr-Id   : n/a  
Ingr Mac Fltr-Id   : n/a              Egr Mac Fltr-Id  : n/a  
Ingr IPv6 Fltr-Id : n/a              Egr IPv6 Fltr-Id : n/a  
tod-suite          : None              qinq-pbit-marking : both  
Egr Agg Rate Limit: max  
Limit Unused BW    : Disabled  
ARP Reply Agent    : Disabled          Host Conn Verify : Disabled  
Mac Learning       : Enabled          Discard Unkwn Srce: Disabled  
Mac Aging          : Enabled          Mac Pinning       : Disabled  
BPDU Translation   : Disabled  
L2PT Termination   : Disabled  
Vlan-translation   : None  
  
Acct. Pol          : None              Collect Stats     : Disabled  
  
Anti Spoofing      : None              Dynamic Hosts     : Enabled  
Avl Static Hosts   : 0                 Tot Static Hosts  : 0  
Calling-Station-Id : n/a  
  
Application Profile: None  
Transit Policy     : None  
  
Oper Group         : (none)            Monitor Oper Grp  : (none)  
Host Lockout Plcy  : n/a  
Lag Link Map Prof  : (none)  
Cflowd            : Disabled  
MCAC Policy Name   :                   MCAC Const Adm St : Enable  
MCAC Max Unconst BW: no limit          MCAC Max Mand BW  : no limit  
MCAC In use Mand BW: 0                 MCAC Avail Mand BW: unlimited  
MCAC In use Opnl BW: 0                 MCAC Avail Opnl BW: unlimited  
Use LAG port weight: no  
Restr MacProt Src  : Disabled          Restr MacUnpr Dst : Disabled  
Auto Learn Mac Prot: Disabled          RestProtSrcMacAct : Disable  
Time to RetryReset : never              Retries Left      : 3  
Mac Move           : Blockable          Blockable Level   : Tertiary
```

```
Egr MCast Grp      :
Auth Policy        : None
```

```
-----
ETH-CFM SAP specifics
-----
```

```
Tunnel Faults      : accept          AIS                : Disabled
MC Prop-Hold-Timer : n/a              V-MEP Filtering    : Disabled
Squelch Levels     : None
```

```
-----
Stp Service Access Point specifics
-----
```

```
Stp Admin State    : Up                Stp Oper State     : Down
Core Connectivity  : Down
Port Role          : N/A                Port State         : Forwarding
Port Number        : N/A                Port Priority      : 128
Port Path Cost     : 10                 Auto Edge         : Enabled
Admin Edge         : Disabled           Oper Edge         : N/A
Link Type          : Pt-pt              BPDU Encap        : Dot1d
Root Guard         : Disabled           Active Protocol    : N/A
Last BPDU from     : N/A
CIST Desig Bridge  : N/A                Designated Port    : N/A

Forward transitions: 0                Bad BPDUs rcvd    : 0
Cfg BPDUs rcvd    : 0                Cfg BPDUs tx      : 0
TCN BPDUs rcvd    : 0                TCN BPDUs tx      : 0
TC bit BPDUs rcvd : 0                TC bit BPDUs tx   : 0
RST BPDUs rcvd    : 0                RST BPDUs tx      : 0
MST BPDUs rcvd    : 0                MST BPDUs tx      : 0
```

```
-----
ARP host
-----
```

```
Admin State        : outOfService
Host Limit         : 1                  Min Auth Interval : 15 minutes
```

```
-----
QOS
-----
```

```
Ingress qos-policy : 2                Egress qos-policy : 2
Ingress FP QGrp    : (none)           Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)           Egr Port QGrp Inst: (none)
Shared Q plcy      : n/a              Multipoint shared  : Disabled
I. Sched Pol       : (Not Specified)
E. Sched Pol       : (Not Specified)
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)
```

```
-----
DHCP
-----
```

```
Description        : (Not Specified)
Admin State         : Down              Lease Populate     : 0
DHCP Snooping      : Down              Action             : Keep

Proxy Admin State   : Down
Proxy Lease Time    : N/A
Emul. Server Addr  : Not Configured
```

```
-----
Subscriber Management
-----
```

```
Admin State        : Down              MAC DA Hashing    : False
```

## Show, Clear, Debug Commands

```
Def Sub-Id      : None
Def Sub-Profile : None
Def SLA-Profile : None
Def Inter-Dest-Id : None
Def App-Profile : None
Sub-Ident-Policy : None

Subscriber Limit : 1
Single-Sub-Parameters
  Prof Traffic Only : False
  Non-Sub-Traffic : N/A

Static host management
MAC learn options : N/A
```

---

### Sap Statistics

---

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

	Packets	Octets
CPM Ingress	: 0	0

#### Forwarding Engine Stats

Dropped	: 0	0
Received Valid	: 0	0
Off. HiPrio	: 0	0
Off. LowPrio	: 0	0
Off. Uncolor	: 0	0
Off. Managed	: 0	0

#### Queueing Stats (Ingress QoS Policy 2)

Dro. HiPrio	: 0	0
Dro. LowPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0

#### Queueing Stats (Egress QoS Policy 2)

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

---

### Sap per Queue stats

---

	Packets	Octets
--	---------	--------

#### Ingress Queue 1 (Unicast) (Priority)

Off. HiPrio	: 0	0
Off. LowPrio	: 0	0
Dro. HiPrio	: 0	0
Dro. LowPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0

#### Ingress Queue 11 (Multipoint) (Priority)

Off. HiPrio	: 0	0
Off. LowPrio	: 0	0
Off. Managed	: 0	0
Dro. HiPrio	: 0	0
Dro. LowPrio	: 0	0



```
For. InProf      : 0          0
For. OutProf     : 0          0
```

Egress Queue 1

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

-----  
VPLS Spanning Tree Information  
-----

```
VPLS oper state   : Up           Core Connectivity : Down
Stp Admin State   : Down        Stp Oper State    : Down
Mode              : Rstp        Vcp Active Prot.  : N/A
```

```
Bridge Id         : 80:00:00:03:fa:32:16:62 Bridge Instance Id: 0
Bridge Priority    : 32768           Tx Hold Count     : 6
Topology Change   : Inactive        Bridge Hello Time  : 2
Last Top. Change  : 0d 00:00:00     Bridge Max Age    : 20
Top. Change Count : 0               Bridge Fwd Delay  : 15
MST region revision: 0              Bridge max hops   : 20
MST region name   :
```

```
Root Bridge       : N/A
Primary Bridge    : N/A
```

```
Root Path Cost    : 0               Root Forward Delay: 0
Rcvd Hello Time   : 0               Root Max Age      : 0
Root Priority      : 0               Root Port         : N/A
```

-----  
Forwarding Database specifics  
-----

```
Service Id        : 1               Mac Move          : Disabled
Primary Factor    : 3               Secondary Factor  : 2
Mac Move Rate     : 2               Mac Move Timeout  : 10
Mac Move Retries  : 3
Table Size        : 250             Total Count       : 0
Learned Count     : 0               Static Count      : 0
OAM MAC Count     : 0               DHCP MAC Count   : 0
Host MAC Count    : 0               Intf MAC Count   : 0
Spb Count         : 0               Cond MAC Count   : 0
BGP EVPN Count   : 0               EVPN Static Cnt  : 0
Remote Age        : 900             Local Age         : 300
High Watermark    : 95%            Low Watermark     : 90%
Mac Learning      : Enabled         Discard Unknown   : Disabled
Mac Aging         : Enabled         Relearn Only     : False
Mac Subnet Len    : 48
```

-----  
IGMP Snooping Base info  
-----

```
Admin State : Down
Querier      : No querier found
```

```
-----  
Sap/Sdp      Oper MRtr Pim  Send Max  Max  Max  MVR      Num
Id           Stat Port Port  Qrys Grps  Srcs Grp  From-VPLS Grps
                Srcs
-----  
sap:1/1/8:1.1  Up   No   No   No   None  None  None  Local  0
```

## Show, Clear, Debug Commands

```
sdp:230:1          Up    No    No    No    None  None None  N/A      0
```

```
-----
MLD Snooping Base info
-----
```

```
Admin State : Down
Querier      : No querier found
-----
```

Sap/Sdp Id	Oper State	MRtr Port	Send Queries	Max Num Groups	MVR From-VPLS	Num Groups
sap:1/1/8:1.1	Up	No	Disabled	No Limit	Local	0
sdp:230:1	Up	No	Disabled	No Limit	N/A	0

```
-----
DHCP Summary, service 1
-----
```

Sap/Sdp	Snoop	Used/ Provided	Arp Reply Agent	Info Option	Admin State
sap:1/1/8:1.1	No	0/0	No	Keep	Down
sdp:230:1	No	N/A	N/A	N/A	N/A

```
-----
Number of Entries : 2
-----
```

```
-----
ARP host Summary, service 1
-----
```

Sap	Used	Provided	Admin State
sap:1/1/8:1.1	0	1	outOfService

Number of SAPs : 1    0

```
-----
WLAN Gateway specifics
-----
```

```
Admin State      : disabled
Description      : (Not Specified)
SAP-template     : (Not Specified)
Last management change : (Not Specified)
No associated WLAN Gateway interface VLAN tag ranges found.
=====
```

```
=====
Service VPLS Group Information
=====
```

```
VPLS VXLAN, Ingress VXLAN Network Id: 0
```

```
=====
Egress VTEP, VNI
=====
```

VTEP Address	Egress VNI	Num. MACs	In Mcast List?	Oper State
--------------	------------	-----------	----------------	------------

```

No Matching Entries
=====

-----
Service Endpoints
-----
No Endpoints found.
-----

=====
VPLS Sites
=====
Site              Site-Id  Dest              Mesh-SDP  Admin  Oper  Fwdr
-----
No Matching Entries
=====

*A:Dut-B#

*A:Dut-B>config>service>sdp# show service id 1 all

=====
Service Detailed Information
=====
Service Id       : 1                Vpn Id          : 0
Service Type    : VPLS
Name            : vpls_1
Description     : (Not Specified)
Customer Id     : 1                Creation Origin  : manual
Last Status Change: 05/27/2015 06:55:40
Last Mgmt Change  : 05/27/2015 06:55:40
Etree Mode     : Disabled
Admin State    : Up                Oper State      : Up
MTU            : 1514              Def. Mesh VC Id : 1
SAP Count     : 1                SDP Bind Count  : 1
Snd Flush on Fail : Disabled          Host Conn Verify : Disabled
SHCV pol IPv4  : None
Propagate MacFlush: Disabled          Per Svc Hashing  : Disabled
Allow IP Intf Bind: Disabled          Fwd-IPv4-Mcast-To*: Disabled
Def. Gateway IP : None
Def. Gateway MAC : None
Temp Flood Time : Disabled          Temp Flood      : Inactive
Temp Flood Chg Cnt: 0
VSD Domain     : <none>
SPI load-balance : Disabled
TEID load-balance : Disabled

-----
BGP Information
-----

-----
Split Horizon Group specifics
-----

-----
ETH-CFM service specifics
-----
Tunnel Faults   : ignore                V-Mep Extensions : Enabled

```

## Show, Clear, Debug Commands

```

-----
Service Destination Points (SDPs)
-----
Sdp Id 230:1  -(10.20.1.3)
-----
Description      : (Not Specified)
SDP Id           : 230:1                               Type           : Spoke
Spoke Descr     : (Not Specified)
Split Horiz Grp : (Not Specified)
Etree Root Leaf Tag: Disabled                          Etree Leaf AC  : Disabled
VC Type         : Ether                                VC Tag         : n/a
Admin Path MTU  : 0                                    Oper Path MTU  : 1582
Delivery        : MPLS
Far End         : 10.20.1.3
Tunnel Far End  : n/a                                  LSP Types      : SR-OSPF
Hash Label      : Disabled                             Hash Lbl Sig Cap : Disabled
Oper Hash Label : Disabled

Admin State      : Up                                  Oper State      : Up
Acct. Pol       : None                                  Collect Stats   : Disabled
Ingress Label   : 262142                                Egress Label   : 262141
Ingr Mac Fltr-Id : n/a                                  Egr Mac Fltr-Id : n/a
Ingr IP Fltr-Id : n/a                                  Egr IP Fltr-Id : n/a
Ingr IPv6 Fltr-Id : n/a                               Egr IPv6 Fltr-Id : n/a
Admin ControlWord : Not Preferred                       Oper ControlWord : False
BFDD Template   : None
BFDD-Enabled    : no                                  BFD-Encap      : ipv4
Last Status Change : 05/27/2015 06:59:46                Signaling      : TLDP
Last Mgmt Change  : 05/27/2015 06:55:40
Endpoint        : N/A                                  Precedence     : 4
PW Status Sig    : Enabled
Force Vlan-Vc   : Disabled                             Force QinQ-Vc  : Disabled
Class Fwding State : Down
Flags           : None
Time to RetryReset : never                               Retries Left   : 3
Mac Move        : Blockable                             Blockable Level : Tertiary
Local Pw Bits   : None
Peer Pw Bits    : None
Peer Fault Ip   : None
Peer Vccv CV Bits : lspPing bfdFaultDet
Peer Vccv CC Bits : mplsRouterAlertLabel

Application Profile: None
Transit Policy    : None
Max Nbr of MAC Addr: No Limit                          Total MAC Addr : 0
Learned MAC Addr  : 0                                  Static MAC Addr : 0
OAM MAC Addr      : 0                                  DHCP MAC Addr  : 0
Host MAC Addr     : 0                                  Intf MAC Addr  : 0
SPB MAC Addr      : 0                                  Cond MAC Addr  : 0
BGP EVPN Addr     : 0                                  EVPN Static Addr : 0

MAC Learning      : Enabled                             Discard Unkwn Srce: Disabled
MAC Aging         : Enabled
BPDU Translation  : Disabled
L2PT Termination  : Disabled
MAC Pinning       : Disabled
Ignore Standby Sig : False                             Block On Mesh Fail: False
Oper Group        : (none)                             Monitor Oper Grp : (none)
Rest Prot Src Mac : Disabled
Auto Learn Mac Prot: Disabled                          RestProtSrcMacAct : Disable

```

```

Ing. Vlan Trans.      : 0

Ingress Qos Policy   : (none)                Egress Qos Policy : (none)
Ingress FP QGrp     : (none)                Egress Port QGrp  : (none)
Ing FP QGrp Inst    : (none)                Egr Port QGrp Inst: (none)

KeepAlive Information :
Admin State          : Disabled              Oper State          : Disabled
Hello Time           : 10                   Hello Msg Len       : 0
Max Drop Count       : 3                     Hold Down Time      : 10

Statistics           :
I. Fwd. Pkts.        : 0                     I. Dro. Pkts.       : 0
I. Fwd. Octets.      : 0                     I. Dro. Octets.    : 0
E. Fwd. Pkts.        : 0                     E. Fwd. Octets     : 0

-----
Control Channel Status
-----
PW Status            : disabled                Refresh Timer       : <none>
Peer Status Expire   : false
Request Timer        : <none>
Acknowledgement      : false

MCAC Policy Name     :
MCAC Max Unconst BW : no limit                MCAC Max Mand BW   : no limit
MCAC In use Mand BW : 0                      MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW : 0                      MCAC Avail Opnl BW: unlimited

-----
ETH-CFM SDP-Bind specifics
-----
V-MEP Filtering      : Disabled
Squelch Levels       : None

-----
RSVP/Static LSPs
-----
Associated LSP List :
No LSPs Associated

-----
Class-based forwarding :
-----
Class forwarding     : Disabled                EnforceDSTELspFc   : Disabled
Default LSP          : Uknwn                    Multicast LSP       : None

=====
FC Mapping Table
=====
FC Name              LSP Name
-----
No FC Mappings

-----
Segment Routing
-----
OSPF                  : enabled                LSP Id              : 524291
Oper Instance Id     : 0

```

## Show, Clear, Debug Commands

```
Stp Service Destination Point specifics
-----
Stp Admin State      : Up
Core Connectivity    : Down
Port Role            : N/A
Port Number          : 0
Port Path Cost       : 10
Admin Edge           : Disabled
Link Type            : Pt-pt
Root Guard           : Disabled
Last BPDU from       : N/A
Designated Bridge    : N/A

Stp Oper State       : Down
Port State           : Forwarding
Port Priority         : 128
Auto Edge            : Enabled
Oper Edge            : N/A
BPDU Encap           : Dot1d
Active Protocol      : N/A
Designated Port Id   : 0

Fwd Transitions      : 0
Cfg BPDUs rcvd       : 0
TCN BPDUs rcvd       : 0
TC bit BPDUs rcvd    : 0
RST BPDUs rcvd       : 0
Bad BPDUs rcvd       : 0
Cfg BPDUs tx         : 0
TCN BPDUs tx         : 0
TC bit BPDUs tx      : 0
RST BPDUs tx         : 0
-----

Number of SDPs : 1
-----

Service Access Points
-----

SAP 1/1/8:1.1
-----
Service Id           : 1
SAP                  : 1/1/8:1.1
QinQ Dot1p          : Default
Description           : (Not Specified)
Admin State          : Up
Flags                : None
Multi Svc Site       : None
Last Status Change   : 05/27/2015 06:55:40
Last Mgmt Change     : 05/27/2015 06:55:40
Sub Type             : regular
Dot1Q Ethertype      : 0x8100
Split Horizon Group   : (Not Specified)
QinQ Ethertype       : 0x8100

Etree Root Leaf Tag : Disabled
Etree Leaf AC        : Disabled
Max Nbr of MAC Addr : No Limit
Learned MAC Addr     : 0
OAM MAC Addr         : 0
Host MAC Addr        : 0
SPB MAC Addr         : 0
BGP EVPN Addr        : 0
Admin MTU            : 1522
Ingr IP Fltr-Id     : n/a
Ingr Mac Fltr-Id    : n/a
Ingr IPv6 Fltr-Id   : n/a
tod-suite            : None

Q Frame-Based Acct   : Disabled
ARP Reply Agent      : Disabled
SHCV pol IPv4        : None
Mac Learning         : Enabled
Mac Aging            : Enabled
BPDU Translation     : Disabled

Encap                : qinq
Oper State           : Up
Total MAC Addr       : 0
Static MAC Addr      : 0
DHCP MAC Addr        : 0
Intf MAC Addr        : 0
Cond MAC Addr        : 0
EVPN Static Addr     : 0
Oper MTU             : 1522
Egr IP Fltr-Id       : n/a
Egr Mac Fltr-Id      : n/a
Egr IPv6 Fltr-Id     : n/a
qinq-pbit-marking    : both
Egr Agg Rate Limit   : max
Limit Unused BW      : Disabled
Host Conn Verify     : Disabled
Discard Unkwn Srce   : Disabled
Mac Pinning          : Disabled
```

```

L2PT Termination      : Disabled
Vlan-translation      : None

Acct. Pol             : None                Collect Stats         : Disabled

Anti Spoofing         : None                Dynamic Hosts        : Enabled
Avl Static Hosts      : 0                  Tot Static Hosts     : 0
Calling-Station-Id   : n/a

Application Profile: None
Transit Policy        : None

Oper Group            : (none)              Monitor Oper Grp     : (none)
Host Lockout Plcy    : n/a
Lag Link Map Prof    : (none)
Cflowd               : Disabled
MCAC Policy Name     :                    MCAC Const Adm St   : Enable
MCAC Max Unconst BW : no limit          MCAC Max Mand BW    : no limit
MCAC In use Mand BW : 0                MCAC Avail Mand BW  : unlimited
MCAC In use Opnl BW : 0                MCAC Avail Opnl BW  : unlimited
Use LAG port weight : no
Restr MacProt Src    : Disabled          Restr MacUnpr Dst   : Disabled
Auto Learn Mac Prot  : Disabled          RestProtSrcMacAct   : Disable
Time to RetryReset   : never              Retries Left         : 3
Mac Move             : Blockable          Blockable Level      : Tertiary
Egr MCast Grp       :
Auth Policy          : None
  
```

-----  
 ETH-CFM SAP specifics  
 -----

```

Tunnel Faults        : accept              AIS                  : Disabled
MC Prop-Hold-Timer   : n/a              V-MEP Filtering     : Disabled
Squelch Levels       : None
  
```

-----  
 Stp Service Access Point specifics  
 -----

```

Stp Admin State      : Up                Stp Oper State       : Down
Core Connectivity    : Down
Port Role            : N/A                Port State           : Forwarding
Port Number          : N/A                Port Priority         : 128
Port Path Cost       : 10                 Auto Edge            : Enabled
Admin Edge           : Disabled           Oper Edge            : N/A
Link Type            : Pt-pt              BPDU Encap          : Dot1d
Root Guard           : Disabled           Active Protocol      : N/A
Last BPDU from       : N/A                Designated Port      : N/A
CIST Desig Bridge    : N/A

Forward transitions: 0                Bad BPDUs rcvd      : 0
Cfg BPDUs rcvd       : 0                Cfg BPDUs tx        : 0
TCN BPDUs rcvd       : 0                TCN BPDUs tx        : 0
TC bit BPDUs rcvd    : 0                TC bit BPDUs tx     : 0
RST BPDUs rcvd       : 0                RST BPDUs tx        : 0
MST BPDUs rcvd       : 0                MST BPDUs tx        : 0
  
```

-----  
 ARP host  
 -----

```

Admin State          : outOfService
Host Limit           : 1                Min Auth Interval   : 15 minutes
  
```

## Show, Clear, Debug Commands

---

### QOS

---

Ingress qos-policy : 2  
Ingress FP QGrp : (none)  
Ing FP QGrp Inst : (none)  
Shared Q plcy : n/a  
I. Sched Pol : (Not Specified)  
E. Sched Pol : (Not Specified)  
I. Policer Ctl Pol : (Not Specified)  
E. Policer Ctl Pol : (Not Specified)

---

### DHCP

---

Description : (Not Specified)  
Admin State : Down  
DHCP Snooping : Down  
Lease Populate : 0  
Action : Keep  
Proxy Admin State : Down  
Proxy Lease Time : N/A  
Emul. Server Addr : Not Configured

---

### Subscriber Management

---

Admin State : Down  
Def Sub-Id : None  
Def Sub-Profile : None  
Def SLA-Profile : None  
Def Inter-Dest-Id : None  
Def App-Profile : None  
Sub-Ident-Policy : None  
MAC DA Hashing : False

Subscriber Limit : 1  
Single-Sub-Parameters  
Prof Traffic Only : False  
Non-Sub-Traffic : N/A

Static host management  
MAC learn options : N/A

---

### Sap Statistics

---

Last Cleared Time : N/A

	Packets	Octets
CPM Ingress	: 0	0

Forwarding Engine Stats

Dropped	: 0	0
Received Valid	: 0	0
Off. HiPrio	: 0	0
Off. LowPrio	: 0	0
Off. Uncolor	: 0	0
Off. Managed	: 0	0

Queueing Stats(Ingress QoS Policy 2)

Dro. HiPrio	: 0	0
Dro. LowPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0



```

Queueing Stats(Egress QoS Policy 2)
Dro. InProf          : 0          0
Dro. OutProf         : 0          0
For. InProf          : 0          0
For. OutProf         : 0          0
-----
Sap per Queue stats
-----
                Packets          Octets

Ingress Queue 11 (Multipoint) (Priority)
Off. HiPrio         : 0          0
Off. LowPrio        : 0          0
Off. Managed        : 0          0
Dro. HiPrio         : 0          0
Dro. LowPrio        : 0          0
For. InProf         : 0          0
For. OutProf        : 0          0
-----
Sap per Policer stats
-----
                Packets          Octets

Ingress Policer 1 (Stats mode: minimal)
Off. All            : 0          0
Dro. All            : 0          0
For. All            : 0          0

Egress Policer 1 (Stats mode: minimal)
Off. All            : 0          0
Dro. All            : 0          0
For. All            : 0          0
-----
VPLS Spanning Tree Information
-----
VPLS oper state    : Up          Core Connectivity : Down
Stp Admin State    : Down        Stp Oper State    : Down
Mode               : Rstp        Vcp Active Prot.  : N/A

Bridge Id          : 80:00.66:30:ff:00:00:00 Bridge Instance Id: 0
Bridge Priority    : 32768         Tx Hold Count     : 6
Topology Change   : Inactive      Bridge Hello Time  : 2
Last Top. Change  : 0d 00:00:00   Bridge Max Age    : 20
Top. Change Count : 0             Bridge Fwd Delay  : 15
MST region revision: 0           Bridge max hops   : 20
MST region name   :

Root Bridge       : N/A
Primary Bridge    : N/A

Root Path Cost    : 0             Root Forward Delay: 0
Rcvd Hello Time   : 0             Root Max Age      : 0
Root Priority      : 0             Root Port         : N/A
-----
Forwarding Database specifics
-----
Service Id        : 1             Mac Move          : Disabled
Primary Factor    : 3             Secondary Factor   : 2

```

## Show, Clear, Debug Commands

```

Mac Move Rate      : 2
Mac Move Retries  : 3
Table Size        : 250
Learned Count     : 0
OAM MAC Count     : 0
Host MAC Count    : 0
Spb Count         : 0
BGP EVPN Count   : 0
Remote Age        : 900
High Watermark    : 95%
Mac Learning      : Enabled
Mac Aging         : Enabled
Mac Subnet Len    : 48

Mac Move Timeout  : 10
Total Count      : 0
Static Count     : 0
DHCP MAC Count   : 0
Intf MAC Count   : 0
Cond MAC Count   : 0
EVPN Static Cnt  : 0
Local Age        : 300
Low Watermark    : 90%
Discard Unknown  : Disabled
Relearn Only     : False
  
```

---

### IGMP Snooping Base info

---

```

Admin State : Down
Querier     : No querier found
  
```

Sap/Sdp Id	Oper Stat	MRtr Port	Pim Port	Send Qrys	Max Grps	Max Srcs	Max Grp	MVR From-VPLS	Num Grps
sap:1/1/8:1.1	Up	No	No	No	None	None	None	Local	0
sdp:230:1	Up	No	No	No	None	None	None	N/A	0

---

### MLD Snooping Base info

---

```

Admin State : Down
Querier     : No querier found
  
```

Sap/Sdp Id	Oper State	MRtr Port	Send Queries	Max Num Groups	MVR From-VPLS	Num Groups
sap:1/1/8:1.1	Up	No	Disabled	No Limit	Local	0
sdp:230:1	Up	No	Disabled	No Limit	N/A	0

---

### DHCP Summary, service 1

---

Sap/Sdp	Snoop	Used/Provided	Arp Reply Agent	Info Option	Admin State
sap:1/1/8:1.1	No	0/0	No	Keep	Down
sdp:230:1	No	N/A	N/A	N/A	N/A

Number of Entries : 2

---

### ARP host Summary, service 1

---

Sap	Used	Provided	Admin State
sap:1/1/8:1.1	0	1	outOfService

Number of SAPs : 1 0



## Show, Clear, Debug Commands

*mac ieee-address* — Displays only ARP entries in the ARP table with the specified 48-bit MAC address. The MAC address is in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff, where aa, bb, cc, dd, ee and ff are hexadecimal numbers.

**Default** All MAC addresses.

**sap sap-id** — Displays SAP information for the specified SAP ID.

**interface** — Specifies matching service ARP entries associated with the IP interface.

*ip-address* — The IP address of the interface for which to display matching ARP entries.

**Values** 1.0.0.0 — 223.255.255.255

*ip-int-name* — The IP interface name for which to display matching ARPs.

**Output** **Show Service-ID ARP** — The following table describes show service-id ARP output fields.

Label	Description
IP Address	The IP address.
MAC Address	The specified MAC address. Type Static — FDB entries created by management. Learned — Dynamic entries created by the learning process. Other — Local entries for the IP interfaces created.
Expiry	The age of the ARP entry.
Interface	The interface applied to the service.
SAP	The SAP ID.

## authentication

**Syntax** **authentication**

**Context** show>service>id

**Description** This command enables the context to show session authentication information.

## statistics

**Syntax** **statistics [policy name] [sap sap-id]**

**Context** show>service>id>auth

**Description** This command displays subscriber authentication statistics.

## arp-host

**Syntax** **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**]

**Context** show>service>id

**Description** This command displays ARP host related information.

**Sample Output**

```
*A:Dut-C# show service id 2 arp-host
=====
ARP host table, service 2
=====
IP Address      Mac Address      Sap Id           Remaining      MC
                  Time                                     Stdby
-----
128.128.1.2     00:80:00:00:00:01 2/1/5:2         00h04m41s
128.128.1.3     00:80:00:00:00:02 2/1/5:2         00h04m42s
128.128.1.4     00:80:00:00:00:03 2/1/5:2         00h04m43s
128.128.1.5     00:80:00:00:00:04 2/1/5:2         00h04m44s
128.128.1.6     00:80:00:00:00:05 2/1/5:2         00h04m45s
128.128.1.7     00:80:00:00:00:06 2/1/5:2         00h04m46s
128.128.1.8     00:80:00:00:00:07 2/1/5:2         00h04m47s
128.128.1.9     00:80:00:00:00:08 2/1/5:2         00h04m48s
128.128.1.10    00:80:00:00:00:09 2/1/5:2         00h04m49s
128.128.1.11    00:80:00:00:00:0a 2/1/5:2         00h04m50s
-----
Number of ARP hosts : 10
=====
*A:Dut-C#

*A:Dut-C# show service id 2 arp-host ip-address 128.128.1.2 detail
=====
ARP hosts for service 2
=====
Service ID      : 2
IP Address      : 128.128.1.2
MAC Address     : 00:80:00:00:00:01
SAP             : 2/1/5:2
Remaining Time  : 00h04m58s

Sub-Ident       : "alu_1_2"
Sub-Profile-String : ""
SLA-Profile-String : ""
App-Profile-String : ""
ARP host ANCP-String : ""
ARP host Int Dest Id : ""
RADIUS-User-Name : "128.128.1.2"

Session Timeout (s) : 301
Start Time         : 02/09/2009 16:35:07
Last Auth          : 02/09/2009 16:36:34
```

## Show, Clear, Debug Commands

```
Last Refresh      : 02/09/2009 16:36:38
Persistence Key   : N/A
-----
Number of ARP hosts : 1
=====
*A:Dut-C#

*A:Dut-C# show service id 2 arp-host statistics
=====
ARP host statistics
=====
Num Active Hosts      : 20
Received Triggers     : 70
Ignored Triggers      : 10
Ignored Triggers (overload) : 0
SHCV Checks Forced    : 0
Hosts Created         : 20
Hosts Updated         : 40
Hosts Deleted         : 0
Authentication Requests Sent : 40
=====
*A:Dut-C#

*A:Dut-C# show service id 2 arp-host summary
=====
ARP host Summary, service 2
=====
Sap                Used        Provided   Admin State
-----
sap:2/1/5:2        20         8000      inService
-----
Number of SAPs : 1
-----
=====
*A:Dut-C#
```

## base

<b>Syntax</b>	<b>base [msap]</b>
<b>Context</b>	show>service>id show>service>id>igmp-snooping
<b>Description</b>	This command displays basic information about the service ID including service type, description, SAPs and SDPs.
<b>Parameters</b>	<b>msap</b> — Displays management SAPs.
<b>Output</b>	<b>Show Service-ID Base</b> — The following table describes show service-id base output fields:

Label	Description
Service Id	The service identifier.

Label	Description (Continued)
Vpn Id	Specifies the VPN ID assigned to the service.
Service Type	Displays the type of service.
Description	Generic information about the service.
Customer Id	The customer identifier.
Last Mgmt Change	The date and time of the most recent management-initiated change to this customer.
Adm	The administrative state of the service.
Oper	The operational state of the service.
Mtu	The largest frame size (in octets) that the service can handle.
Def. Mesh VC Id	This object is only valid in services that accept mesh SDP bindings. It is used to validate the VC ID portion of each mesh SDP binding defined in the service.
SAP Count	The number of SAPs defined on the service.
SDP Bind Count	The number of SDPs bound to the service.
Identifier	Specifies the service access (SAP) and destination (SDP) points.
Type	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on the SDP.
AdmMTU	Specifies the largest service frame size (in octets) that can be transmitted through this SDP to the far-end ESR, without requiring the packet to be fragmented.
OprMTU	Specifies the actual largest service frame size (in octets) that can be transmitted through this service to the far-end ESR, without requiring the packet to be fragmented.
Opr	The operating state of the SAP

### Sample Output

```
A:Sr-4# show service id 300 sap 1/1/1:300.* detail
```

```
=====
Service Access Points(SAP)
=====
```

```
Service Id      : 300
SAP             : 1/1/1:300.*      Encap           : qinq
QinQ Dot1p     : Default
Admin State    : Up                Oper State      : Up
Flags          : None
Multi Svc Site : None
Last Status Change : 11/19/2007 20:42:34
Last Mgmt Change  : 11/19/2007 20:42:25
Sub Type       : regular
```

## Show, Clear, Debug Commands

```

Dot1Q Ethertype      : 0x8100 QinQ      Ethertype           : 0x8100
Admin MTU            : 1522             Oper MTU            : 1522
Ingr IP Fltr-Id     : n/a              Egr IP Fltr-Id     : n/a
Ingr Mac Fltr-Id    : n/a              Egr Mac Fltr-Id    : n/a
Ingr IPv6 Fltr-Id   : n/a              Egr IPv6 Fltr-Id   : n/a
tod-suite           : None             qinq-pbit-marking  : both
Egr Agg Rate Limit  : max              Endpoint           : N/A
Q Frame-Based Acct  : Disabled
Vlan-translation    : None

Acct. Pol           : None              Collect Stats       : Disabled
Ingress qos-policy  : 1                 Egress qos-policy  : 1
Shared Q plcy       : n/a              Multipoint shared   : Disabled
  
```

---

### Sap Statistics

---

```
Last Cleared Time      : 11/19/2007 21:23:45
```

	Packets	Octets
Forwarding Engine Stats		
Dropped	: 0	0
Off. HiPrio	: 0	0
Off. LowPrio	: 0	0
Off. Uncolor	: 0	0

#### Queueing Stats(Ingress QoS Policy 1)

Dro. HiPrio	: 0	0
Dro. LowPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0

#### Queueing Stats(Egress QoS Policy 1)

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

---

### Sap per Queue stats

---

	Packets	Octets
Ingress Queue 1 (Unicast) (Priority)		
Off. HiPrio	: 0	0
Off. LoPrio	: 0	0
Dro. HiPrio	: 0	0
Dro. LoPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0

#### Egress Queue 1

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

```
*A:Sr-4#
```

```
*A:SetupCLI# show service id 2001 base
```

---

### Service Basic Information

---

```
Service Id      : 2001          Vpn Id          : 0
```



```

Service Type      : i-VPLS
Customer Id       : 1
Last Status Change: 09/25/2007 21:12:01
Last Mgmt Change  : 09/25/2007 21:45:59
Admin State       : Up
Oper State        : Down
MTU               : 1514
Def. Mesh VC Id   : 2001
SAP Count         : 1
SDP Bind Count    : 0
Snd Flush on Fail : Disabled
Host Conn Verify  : Disabled
b-vpls Id         : 2002
Oper ISID         : 122
Snd Flush in bVpls: Disabled

```

```
-----
Service Access & Destination Points
-----
```

Identifier	Type	AdmMTU	OprMTU	Adm	Opr
sap:1/1/12:2001.2001	qinq	1522	1522	Up	Down

```
-----
[<sap-id>] indicates a Managed SAP
=====
```

```
*A:SetupCLI#
```

```
*A:SetupCLI# show service id 2002 base
```

```
-----
Service Basic Information
-----
```

```

Service Id       : 2002
Service Type     : b-VPLS
Customer Id      : 1
Last Status Change: 09/25/2007 21:12:01
Last Mgmt Change  : 09/25/2007 21:45:59
Admin State      : Up
Oper State       : Down
MTU              : 1530
Def. Mesh VC Id  : 2002
SAP Count        : 2
SDP Bind Count   : 2
Snd Flush on Fail : Disabled
Host Conn Verify : Disabled
Oper Backbone Src : 00:f7:f7:f7:f7:f7

```

```
-----
Related iVpls services for bVpls service 2002
-----
```

iVpls SvcId	Oper ISID	Admin	Oper
2001	122	Up	Down

```
-----
Number of Entries : 1
-----
```

```
-----
Service Access & Destination Points
-----
```

Identifier	Type	AdmMTU	OprMTU	Adm	Opr
sap:1/1/12:2002.2002	qinq	1522	1522	Down	Down
sap:1/1/30:2002	q-tag	1518	1518	Down	Down
sdp:2000:2001 S(101.101.101.101)	n/a	1500	1500	Down	Down
sdp:2000:2002 M(101.101.101.101)	n/a	1500	1500	Down	Down

```
-----
[<sap-id>] indicates a Managed SAP
=====
```

```
A:ALA-48>config>service>vpls# show service id 700 base
```

```
-----
Service Basic Information
-----
```

## Show, Clear, Debug Commands

```
=====
Service Id       : 700                Vpn Id           : 0
Service Type     : VPLS
Description      : IMA VPLS
Customer Id      : 7
Last Status Change: 11/21/2008 17:33:20
Last Mgmt Change : 11/21/2008 17:33:34
Admin State      : Up                  Oper State       : Down
MTU              : 1514                Def. Mesh VC Id  : 700
SAP Count        : 1                  SDP Bind Count   : 2
Snd Flush on Fail : Disabled          Host Conn Verify : Disabled
Propagate MacFlush: Disabled
Def. Gateway IP  : None
Def. Gateway MAC : None

-----
BGP Auto-discovery Information
-----
Admin State      : Down                Vpls Id          : None
Route Dist       : None                Prefix           : 10.10.10.103
Rte-Target Import : None              Rte-Target Export : None
Vsi-Import       : None
Vsi-Export       : None
PW-Template Id   : None

-----
Service Access & Destination Points
-----
Identifier                    Type           AdmMTU  OprMTU  Adm  Opr
-----
sap:1/1/9:0                   q-tag         1518    1518    Up   Down
sdp:2:222 S(10.10.10.104)     n/a           0        0       Up   Down
sdp:2:700 M(10.10.10.104)     n/a           0        0       Up   Down
=====
A:ALA-48>config>service>vpls#
```

## epipe

<b>Syntax</b>	<b>epipe</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays Epipe services associated with the B-VPLS service. The command only applies when the service is a B-VPLS.
<b>Output</b>	<pre>*A:term17&gt;show&gt;service&gt;id# epipe ===== Related Epipe services for bVpls service 2000 ===== Epipe SvcId          Oper ISID          Admin          Oper ----- 100                  100                Down           Down ----- Number of Entries : 1 ----- *A:term17&gt;show&gt;service&gt;id#</pre>

fdb

- Syntax** `fdb [sap sap-id [expiry]] | [sdp sdp-id [expiry]] | [mac ieee-address [expiry]] | endpoint endpoint | [detail] [expiry] [pbb]`
  - Context** `show>service>id`  
`show>service>fdb-mac`
  - Description** This command displays FDB entries for a given MAC address.
  - Parameters**
    - sap sap-id** — Specifies the physical port identifier portion of the SAP. See [Common CLI Command Descriptions on page 1271](#) for command syntax.
    - detail** — Displays detailed information.
    - expiry** — Displays time until MAC is aged out.
    - pbb** — Displays PBB related information. This keyword is only applicable to b-vpls or i-vpls services.
    - endpoint-name** — Specifies an endpoint name up to 32 characters in length.
- Show FDB Information** — The following table describes service FDB output fields.

Label	Description
ServID	Displays the service ID.
MAC	Displays the associated MAC address.
Mac Move	Displays the administrative state of the MAC movement feature associated with this service.
Primary Factor	Displays a factor for the primary ports defining how many MAC-relearn periods should be used to measure the MAC-relearn rate.
Secondary Factor	Displays a factor for the secondary ports defining how many MAC-relearn periods should be used to measure the MAC-relearn rate.
Mac Move Rate	Displays the maximum rate at which MAC's can be re-learned in this service, before the SAP where the moving MAC was last seen is automatically disabled in order to protect the system against undetected loops or duplicate MAs. The rate is computed as the maximum number of re-learns allowed in a 5 second interval: for example, the default rate of 2 re-learns per second corresponds to 10 re-learns in a 5 second period.
Mac Move Timeout	Displays the time in seconds to wait before a SAP that has been disabled after exceeding the maximum re-learn rate is re-enabled. A value of zero indicates that the SAP will not be automatically re-enabled after being disabled. If after the SAP is re-enabled it is disabled again, the effective retry timeout is doubled in order to avoid thrashing.
Mac Move Retries	Displays the number of times retries are performed for reenabling the SAP/SDP.

Label	Description (Continued)
Table Size	Specifies the maximum number of learned and static entries allowed in the FDB of this service. The maximum value is 511999 when the the value of the chassis mode is <b>d</b> . The maximum value is 196607 when the chassis mode is <b>c</b> . In other cases, the maximum value is 131071.
Total Count	Displays the total number of learned entries in the FDB of this service.
Learned Count	Displays the current number of learned entries in the FDB of this service.
Static Count	Displays the current number of static entries in the FDB of this service.
OAM-learned Count	Displays the current number of OAM entries in the FDB of this service.
DHCP-learned Count	Displays the current number of DHCP-learned entries in the FDB of this service.
Host-learned Count	Displays the current number of host-learned entries in the FDB of this service.
Remote Age	Displays the number of seconds used to age out FDB entries learned on an SDP. These entries correspond to MAC addresses learned on remote SAPs.
Local Age	Displays the number of seconds used to age out FDB entries learned on local SAPs.
High Watermark	Displays the utilization of the FDB table of this service at which a table full alarm will be raised by the agent.
Low Watermark	Displays the utilization of the FDB table of this service at which a table full alarm will be cleared by the agent.
Mac Learning	Specifies whether the MAC learning process is enabled.
Discard Unknown	Specifies whether frames received with an unknown destination MAC are discarded.
Mac Aging	Indicates whether the MAC aging process is enabled.
Relearn Only	Displays, that when enabled, either the FDB table of this service is full, or that the maximum system-wide number of MA's supported by the agent has been reached, and thus MAC learning is temporary disabled, and only MAC re-learns can take place.
Mac Subnet Len	Displays the number of bits to be considered when performing MAC-learning or MAC-switching.
Source-Identifier	The location where the MAC is defined.

Label	Description (Continued)
Type/Age	<p><b>Type</b> — Specifies the number of seconds used to age out TLS FDB entries learned on local SAPs.</p> <p><b>Age</b> — Specifies the number of seconds used to age out TLS FDB entries learned on an SDP. These entries correspond to MAC addresses learned on remote SAPs.</p> <p><b>L</b> — Learned - Dynamic entries created by the learning process.</p> <p><b>OAM</b> — Entries created by the OAM process.</p> <p><b>H</b> — Host, the entry added by the system for a static configured subscriber host.</p> <p><b>D or DHCP</b> — DHCP-installed MAC. Learned addresses can be temporarily frozen by the DHCP snooping application for the duration of a DHCP lease.</p> <p><b>P</b> — Indicates the MAC is protected by the MAC protection feature.</p> <p><b>Static</b> — Statically configured.</p>
Last Change	Indicates the time of the most recent state changes.

**Sample Output**

```
A:ALA-48>show>service>id# fdb mac detail
=====
Service Forwarding Database
=====
ServId   MAC                Source-Identifier   Type/Age  Last Change
-----
6        00:aa:00:00:00:00  sap:lag-2          L/0       06/27/2006 15:04:31
6        00:aa:00:00:00:01  sap:lag-2          L/0       06/27/2006 15:04:31
6        00:aa:00:00:00:02  sap:lag-2          L/0       06/27/2006 15:04:31
6        00:aa:00:00:00:03  sap:lag-2          L/0       06/27/2006 15:04:31
6        00:aa:00:00:00:04  sap:lag-2          L/0       06/27/2006 15:04:31
10       12:12:12:12:12:12  sap:1/1/1:100     S         06/26/2006 10:03:29
=====
A:ALA-48>show>service>id#
```

```
A:PE-1# show service id 1 fdb detail
=====
Forwarding Database, Service 1
=====
ServId   MAC                Source-Identifier   Type      Last Change
-----
1        00:00:00:00:00:01  sap:1/1/1          LP/0      02/24/12 11:40:07
-----
No. of MAC Entries: 1
-----
Legend:  L=Learned O=Oam P=Protected-MAC
```

```
=====
A:PE-1#
```

```
A:ALA-48# show service id 700 fdb
```

```
=====
Forwarding Database, Service <service-id>
=====
```

ServId	MAC	Source-Identifier	Type/Age	Last Change
1	aa:aa:aa:aa:aa:aa	sdp:100:1	P	11/02/2006 06:04:03

```
-----
No. of MAC Entries: 1
=====
```

```
A:ALA-48#
```

```
*A:cses-B0102>show>service>id# fdb detail
```

```
=====
Forwarding Database, Service 510
=====
```

ServId	MAC	Source-Identifier	Type Age	Last Change
510	00:00:00:aa:aa:aa	sap:1/1/22:510	CStatic	06/14/13 20:16:19
510	00:00:00:bb:bb:bb	sap:1/1/22:510	CStatic	06/14/13 20:14:49
510	00:00:00:dd:dd:dd	sdp:7:2	Spb	06/14/13 20:03:23
510	d8:da:ff:00:00:00	sap:1/1/22:510	CStatic	06/14/13 21:06:38
510	d8:e0:ff:00:00:00	sdp:7:2	Spb	06/14/13 21:09:29

```
-----
No. of MAC Entries: 5
=====
```

```
Legend: L=Learned O=Oam P=Protected-MAC
=====
```

```
A:term17>config>service# show service id 2000 fdb pbb
(BVPLS = 2000, IVPLS = 2100)
```

```
=====
Forwarding Database, bVpls Service 2000
=====
```

MAC	Source-Identifier	iVplsMACs	Type/Age	Last Change
00:f4:f4:f4:f4:f4	sdp:100:2000	10	L/0	09/25/2007 15:34:19

```
=====
A:term17>config>service#
```

```
*A:SetupCLI# show service id 2100 fdb pbb
```

```
=====
Forwarding Database, iVpls Service 2100
=====
```

MAC	Source-Identifier	B-Svc	bVpls MAC	Type/Age
76:55:ff:00:01:a4	b-sdp:100:2000	2000	00:f4:f4:f4:f4:ff	L/0
76:55:ff:00:01:bb	sap:1/1/1:2100	2000	N/A	Static

```
=====
*A:SetupCLI#
```

```
A:term17>config>service# show service id 2100 fdb pbb
```

```
=====
Forwarding Database, iVpls Service 2100
=====
```

## Show, Clear, Debug Commands

```
=====
```

MAC	Source-Identifier	B-Svc	bVpls MAC	Type/Age
00:f4:f4:f4:00:00	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f4:f4:f4:00:01	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f4:f4:f4:00:02	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f4:f4:f4:00:03	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f4:f4:f4:00:04	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f4:f4:f4:00:05	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f4:f4:f4:00:06	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f4:f4:f4:00:07	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f4:f4:f4:00:08	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f4:f4:f4:00:09	b-sdp:100:2000	2000	00:f4:f4:f4:f4:f4	L/0
00:f7:f7:f7:00:00	sap:lag-1:2100	2000	N/A	L/0
00:f7:f7:f7:00:01	sap:lag-1:2100	2000	N/A	L/0
00:f7:f7:f7:00:02	sap:lag-1:2100	2000	N/A	L/0
00:f7:f7:f7:00:03	sap:lag-1:2100	2000	N/A	L/0
00:f7:f7:f7:00:04	sap:lag-1:2100	2000	N/A	L/0
00:f7:f7:f7:00:06	sap:lag-1:2100	2000	N/A	L/0
00:f7:f7:f7:00:07	sap:lag-1:2100	2000	N/A	L/0
00:f7:f7:f7:00:08	sap:lag-1:2100	2000	N/A	L/0
00:f7:f7:f7:00:09	sap:lag-1:2100	2000	N/A	L/0

```
=====
```

```
A:term17>config>service#
```

```
*A:SetupCLI# show service id 2100 fdb pbb
```

```
=====
```

Forwarding Database, iVpls Service 2100

```
=====
```

MAC	Source-Identifier	B-Svc	bVpls MAC	Type/Age
76:55:ff:00:01:a4	b-sdp:100:2000	2000	00:f4:f4:f4:f4:ff	L/0
76:55:ff:00:01:bb	sap:1/1/1:2100	2000	N/A	Static

```
=====
```

```
*A:SetupCLI#
```

```
*A:term17>config>service>epipe# show service id 2000 fdb detail pbb
```

```
=====
```

Forwarding Database, bVpls Service 2000

```
=====
```

MAC	Source-Identifier	iVplsMACs	Epipes	Type/Age
-----	-------------------	-----------	--------	----------

No Matching Entries

```
=====
```

```
*A:term17>config>service>epipe#
```

```
*A:term17>config>service>epipe# show service id 2100 fdb detail
```

```
=====
```

Forwarding Database, Service 2100

```
=====
```

ServId	MAC	Source-Identifier	Type/Age	Last Change
--------	-----	-------------------	----------	-------------

No Matching Entries

```
=====
```

```
*A:term17>config>service>epipe# show service id 2100 fdb detail pbb
```

```
=====
```

Forwarding Database, iVpls Service 2100

```
=====
```



```

MAC                Source-Identifier    B-Svc    bVpls MAC        Type/Age
-----
No Matching Entries
=====
*A:term17>config>service>epipe#

```

## egress-multicast-group

- Syntax** `egress-multicast-group [group-name]`
- Context** `show>service`
- Description** This command displays egress multicast group information.
- Parameters** *group-name* — Specifies the name of the egress multicast group.

### Sample Output

```

A:Dut-C# show service egress-multicast-group emg1
=====
Egress Multicast Group Entry
=====
Group                : emg1
-----
Chain Limit         : 16                Encap Type          : dot1q
Dot1q ether type    : 0x8100            Filter-Id           : n/a
-----
Service Access Points
1/1/1:100
=====
A:Dut-C#

```

## gsmp

- Syntax** `gsmp`
- Context** `show>service>id`
- Description** This command displays GSMP information.

## neighbors

- Syntax** `neighbors group [name] [ip-address]`
- Context** `show>service>id>gsmp`
- Description** This command displays GSMP neighbor information.
- Parameters** *group* — A GSMP group defines a set of GSMP neighbors which have the same properties.

## Show, Clear, Debug Commands

*name* — Specifies a GSMP group name is unique only within the scope of the service in which it is defined.

*ip-address* — Specifies the ip-address of the neighbor.

### Sample Output

These commands show the configured neighbors per service, regardless of the fact there exists an open TCP connection with this neighbor. The admin state is shown because for a neighbor to be admin enabled, the service, gsmp node, group node and the neighbor node in this service must all be in 'no shutdown' state. Session gives the number of session (open TCP connections) for each configured neighbor.

```
A:active>show>service>id>gsmp# neighbors
=====
GSMP neighbors
=====
Group                               Neighbor                AdminState  Sessions
-----
dslam1                               192.168.1.2            Enabled     0
dslam1                               192.168.1.3            Enabled     0
-----
Number of neighbors shown: 2
=====
A:active>show>service>id>gsmp#

A:active>show>service>id>gsmp# neighbors group dslam1
=====
GSMP neighbors
=====
Group                               Neighbor                AdminState  Sessions
-----
dslam1                               192.168.1.2            Enabled     0
dslam1                               192.168.1.3            Enabled     0
-----
Number of neighbors shown: 2
=====
A:active>show>service>id>gsmp#

A:active>show>service>id>gsmp# neighbors group dslam1 192.168.1.2
=====
GSMP neighbors
=====
Group                               Neighbor                AdminState  Sessions
-----
dslam1                               192.168.1.2            Enabled     0
=====
A:active>show>service>id>gsmp#
```

## sessions

**Syntax** `sessions [group name] neighbor ip-address [port port-number] [association] [statistics]`

**Context** `show>service>id>gsmp`

- Description** This command displays GSMP sessions information.
- Parameters**
- group** — A GSMP group defines a set of GSMP neighbors which have the same properties.
  - name** — Specifies a GSMP group name within the scope of the service in which it is defined.
  - ip-address** — Specifies the ip-address of the neighbor.
  - port** — Specifies the neighbor TCP port number use for this ANCP session.
    - Values** 0 — 65535
  - association** — Displays to what object the ANCP-string is associated.
  - statistics** — Displays statistics information about an ANCP session known to the system.

**Description** **Show Sessions Neighbor Output** — The following table describes show sessions neighbor output fields.

Label	Description
State	The current state of the ANCP session.
Peer Instance	The instance number of the ANCP session at the neighbor's side.
Sender Instance	The instance number of the ANCP session at our side.
Peer Port	The port number of the ANCP session at the neighbor's side.
Sender Port	The port number of the ANCP session at the local side.
Peer Name	The MAC address of the ANCP session at the neighbor's side.
Sender name	The MAC address of the ANCP session at the local side.
timeouts	The number of adjacency protocol message timeouts.
Max. Timeouts	The maximum allowed of the above timeouts before closing.
Peer Timer	The timer value for the neighbor periodic adjacency protocol messages.
Sender Timer	The timer value for the local periodic adjacency protocol messages.
Capabilities	The negotiated capabilities for the Established ANCP session (DTD: dynamic topology discovery - OAM: operation and maintenance).
Conf Cap	The configured local capabilities.
Priority Marking	The DSCP bits for the IP messages used in the ANCP session.
Local Addr.	The destination IP address for this ANCP session.
Conf Local Addr.	The destination IP address accepted for ANCP connections.

### Sample Output

## Show, Clear, Debug Commands

This show command gives information about the open TCP connections with DSLAMs.

```
A:active>show>service>id>gsmp# sessions
```

```
=====
GSMP sessions for service 999 (VPRN)
=====
```

```
Port   Ngbr-IPAddr   Gsmp-Group
-----
```

```
40590  192.168.1.2   dslam1
-----
```

```
Number of GSMP sessions : 1
=====
```

```
A:active>show>service>id>gsmp#
```

```
A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590
```

```
=====
GSMP sessions for service 999 (VPRN), neighbor 192.168.1.2, Port 40590
=====
```

```
State           : Established
Peer Instance   : 1                Sender Instance : a3cf58
Peer Port       : 0                Sender Port      : 0
Peer Name       : 12:12:12:12:12:12 Sender Name      : 00:00:00:00:00:00
timeouts       : 0                Max. Timeouts   : 3
Peer Timer      : 100             Sender Timer     : 100
Capabilities    : DTD OAM
Conf Capabilities : DTD OAM
Priority Marking : dscp nc2
Local Addr.     : 192.168.1.4
Conf Local Addr. : N/A
=====
```

```
A:active>show>service>id>gsmp#
```

```
A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590 association
```

```
=====
ANCP-Strings
=====
```

```
ANCP-String                                     Assoc. State
-----
```

```
No ANCP-Strings found
=====
```

```
A:active>show>service>id>gsmp#
```

```
A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590 statistics
```

```
=====
GSMP session stats, service 999 neighbor 192.168.1.2, Port 40590
=====
```

```
Event                                     Received  Transmitted
-----
```

Dropped	0	0
Syn	1	1
Syn Ack	1	1
Ack	14	14
Rst Ack	0	0
Port Up	0	0
Port Down	0	0
OAM Loopback	0	0

```
=====
```

```
A:active>show>service>id>gsmp#
```

Note: The association command gives an overview of each ANCP string received from this session.

```
A:active>show>service>id>gsmp# sessions neighbor 192.168.1.2 port 40590 association
=====
ANCP-Strings
=====
ANCP-String                               Assoc.
State
-----
7330-ISAM-E47 atm 1/1/01/01:19425.64048    ANCP    Up
-----
Number of ANCP-Strings : 1
=====
A:active>show>service>id>gsmp#
```

## host

- Syntax** `host [sap sap-id] [detail]`  
**host summary**
- Context** `show>service>id`
- Description** This command displays static host information configured on this service.
- Parameters** *sap-id* — Specifies the physical port identifier portion of the SAP definition. See [Common CLI Command Descriptions on page 1271](#) for command syntax.
- summary** — Displays summary host information.

## host-connectivity-verify

- Syntax** `host-connectivity-verify statistics [sap sap-id]`
- Context** `show>service>id`
- Description** This command displays host connectivity check statistics.
- Parameters** **statistics** — Displays host connectivity verification data.
- sap *sap-id*** — Specifies the physical port identifier portion of the SAP definition. See [Common CLI Command Descriptions on page 1271](#) for command syntax.
- Output** **Show Service Id Host Connectivity Verify** — The following table describes show service-id host connectivity verification output fields:

Label	Description
Svc Id	The service identifier.
SapId/SdpId	The SAP and SDP identifiers.

## Show, Clear, Debug Commands

Label	Description (Continued)
DestIp Address	The destination IP address.
Last Response	The time when the last response was received.
Time Expired	Displays whether the interval value has expired.
Oper State	Displays the current operational state of the service.

### Sample Output

```
A:ALA-48>show>service>id# host-connectivity-verify statistics sap 1/1/9:0
=====
Host connectivity check statistics
=====
Svc   SapId/      DestIp      Last        Time        Oper
Id    SdpId       Address     Response    Expired     State
-----
1000 1/2/3:0143.144.145.1                Up
=====
A:ALA-48>show>service>id#
```

## i-vpls

<b>Syntax</b>	<b>i-vpls</b>
<b>Context</b>	show>service>id
<b>Description</b>	Displays i-vpls services associated with the b-vpls service. This command only applies when the service is a b-vpls.
<b>Output</b>	<pre>*A:SetupCLI# show service id 2002 i-vpls ===== Related iVpls services for bVpls service 2002 ===== iVpls SvcId      Oper ISID      Admin          Oper ----- 2001             122           Up             Down ----- Number of Entries : 1 -----  *A:term17&gt;show&gt;service&gt;id# i-vpls ===== Related iVpls services for bVpls service 2000 ===== iVpls SvcId      Oper ISID      Admin          Oper ----- 2100             2100         Up             Up 2110             123          Up             Up ----- Number of Entries : 2 ----- =====</pre>

## isid-using

<b>Syntax</b>	<b>isid-using</b> [ <i>ISID</i> ]
<b>Context</b>	show>service
<b>Description</b>	This command displays services using an ISID.
<b>Parameters</b>	<i>ISID</i> — Specifies a 24 bit (0..16777215) service instance identifier for this service. As part of the Provider Backbone Bridging frames, it is used at the destination PE as a demultiplexor field.
<b>Values</b>	0 — 16777215

**Output**

```
*A:SetupCLI# show service isid-using
=====
Services
=====
SvcId      ISID      Type      b-Vpls      Adm  Opr  SvcMtu  CustId
-----
2001       122       i-VPLS    2002         Up   Down 1514     1
2005       2005      i-mVP*    2004         Down Down 1500     1
-----
Matching Services : 2
=====
*A:SetupCLI#

A:term17# show service isid-using
=====
Services
=====
SvcId      ISID      Type      b-Vpls      Adm  Opr  SvcMtu  CustId
-----
2000        0         b-VPLS    0             Up   Up   1530     1
2110       123       i-VPLS    2000         Up   Up   1514     1
2299        0         b-VPLS    0             Down Down 1514     1
-----
Matching Services : 3
=====
A:term17#
```

## labels

<b>Syntax</b>	<b>labels</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays the labels being used by the service.
<b>Output</b>	<b>Show Service-ID Labels</b> — The following table describes show service-id labels output fields:

Label	Description
Svc Id	The service identifier.
Sdp Id	The SDP identifier.

Label	Description
Type	Indicates whether the SDP is spoke or mesh.
I. Lbl	The VC label used by the far-end device to send packets to this device in this service by the SDP.
E. Lbl	The VC label used by this device to send packets to the far-end device in this service by the SDP.

### Sample Output

```
*A:ALA-12# show service id 1 labels
=====
Martini Service Labels
=====
Svc Id      Sdp Id      Type I.Lbl      E.Lbl
-----
1           10:1        Mesh 0        0
1           20:1        Mesh 0        0
1           30:1        Mesh 0        0
1           40:1        Mesh 130081   131061
1           60:1        Mesh 131019   131016
1           100:1       Mesh 0        0
-----
Number of Bound SDPs : 6
-----
*A:ALA-12#
```



## l2pt

<b>Syntax</b>	<b>l2pt disabled</b> <b>l2pt [detail]</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays Layer 2 Protocol Tunnel (L2-PT) route information associated with this service.
<b>Parameters</b>	<b>disabled</b> — Displays only entries with termination disabled. This helps identify configuration errors. <b>detail</b> — Displays detailed information.
<b>Output</b>	<b>Show L2PT Fields</b> — The following table describes show L2PT output fields:

Label	Description
Service id	Displays the 24 bit (0..16777215) service instance identifier for the service.
L2pt-term enabled	Indicates if L2-PT-termination and/or Bpdu-translation is in use in this service by at least one SAP or spoke SDP binding. If in use, at least one of L2PT-termination or Bpdu-translation is enabled. When enabled it is not possible to enable STP on this service.
L2pt-term disabled	Indicates that L2-PT-termination is disabled.
Bpdu-trans auto	Specifies the number of L2-PT PDU's are translated before being sent out on a port or sap.
Bpdu-trans disabled	Indicates that Bpdu-translation is disabled.
SAPs	Displays the number of SAPs with L2PT or BPDU translation enabled or disabled.
SDPs	Displays the number of SDPs with L2PT or BPDU translation enabled or disabled.
Total	Displays the column totals of L2PT entities.
SapId	The ID of the access point where this SAP is defined.
L2pt-termination	Indicates whether L2pt termination is enabled or disabled.
Admin Bpdu-translation	Specifies whether Bpdu translation is administratively enabled or disabled.
Oper Bpdu-translation	Specifies whether Bpdu translation is operationally enabled or disabled.
SdpId	Specifies the SAP ID.

**Sample Output**

## Show, Clear, Debug Commands

```
A:ALA-48>show>service>id# l2pt
=====
L2pt summary, Service id 700
=====
```

	L2pt-term enabled	L2pt-term disabled	Bpdu-trans auto	Bpdu-trans disabled	Bpdu-trans pvst	Bpdu-trans stp
SAP's	0	1	0	1	0	0
SDP's	0	1	0	1	0	0
Total	0	2	0	2	0	0

```
=====
A:ALA-48>show>service>id#
```

```
A:ALA-48>show>service>id# l2pt disabled
=====
L2pt details, Service id 700
=====
Service Access Points
-----
```

SapId	L2pt- termination	Admin Bpdu- translation	Oper Bpdu- translation
1/1/9:0	disabled	disabled	disabled

```
-----
Number of SAPs : 1

Service Destination Points
-----
```

SdpId	L2pt- termination	Admin Bpdu- translation	Oper Bpdu- translation
2:222	disabled	disabled	disabled

```
-----
Number of SDPs : 1
=====
L2pt summary, Service id 700
=====
```

	L2pt-term enabled	L2pt-term disabled	Bpdu-trans auto	Bpdu-trans disabled	Bpdu-trans pvst	Bpdu-trans stp
SAP's	0	1	0	1	0	0
SDP's	0	1	0	1	0	0
Total	0	2	0	2	0	0

```
=====
A:ALA-48>show>service>id#
```

```
A:ALA-48>show>service>id# l2pt detail
=====
L2pt details, Service id 700
=====
Service Access Points
-----
```

SapId	L2pt- termination	Admin Bpdu- translation	Oper Bpdu- translation
1/1/9:0	disabled	disabled	disabled

```
-----
```

```

Number of SAPs : 1

Service Destination Points
-----
SdpId          L2pt-termination          Admin Bpdu-translation  Oper Bpdu-translation
-----
2:222          disabled                   disabled                 disabled
-----
Number of SDPs : 1
=====
L2pt summary, Service id 700
=====
          L2pt-term  L2pt-term  Bpdu-trans  Bpdu-trans  Bpdu-trans  Bpdu-trans
          enabled    disabled   auto        disabled    pvst        stp
-----
SAP's 0          1          0           1           0           0
SDP's 0          1          0           1           0           0
-----
Total 0          2          0           2           0           0
=====
A:ALA-48>show>service>id#

```

## mac-move

<b>Syntax</b>	<b>mac-move</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays MAC move related information about the service.

### Sample Output

```

*A:ALA-2009>config>service>vpls>mac-move# show service id 500 mac-move
=====
Service Mac Move Information
=====
Service Id      : 500                Mac Move      : Enabled
Primary Factor  : 4                  Secondary Factor : 2
Mac Move Rate   : 2                  Mac Move Timeout : 10
Mac Move Retries : 3
-----
SAP Mac Move Information: 2/1/3:501
-----
Admin State      : Up                Oper State     : Down
Flags            : RelearnLimitExceeded
Time to come up  : 1 seconds          Retries Left   : 1
Mac Move         : Blockable         Blockable Level : Tertiary
-----
SAP Mac Move Information: 2/1/3:502
-----
Admin State      : Up                Oper State     : Up
Flags            : None
Time to RetryReset: 267 seconds      Retries Left   : none
Mac Move         : Blockable         Blockable Level : Tertiary
-----
SDP Mac Move Information: 21:501

```

## Show, Clear, Debug Commands

```
-----  
Admin State      : Up                Oper State       : Up  
Flags           : None  
Time to RetryReset: never           Retries Left    : 3  
Mac Move        : Blockable         Blockable Level  : Secondary  
-----  
SDP Mac Move Information: 21:502  
-----  
Admin State      : Up                Oper State       : Down  
Flags           : RelearnLimitExceeded  
Time to come up  : never           Retries Left    : none  
Mac Move        : Blockable         Blockable Level  : Tertiary  
=====
```

\*A:ALA-2009>config>service>vpls>mac-move#

## mac-protect

**Syntax** **mac-protect**

**Context** show>service>id

**Description** This command displays MAC protect-related information about the service.

**Output**

```
*A:ALA-48>show>service>id# mac-protect  
=====
```

ServId	MAC	Source-Identifier	Type/Age	Last Change
700	ff:ff:ff:ff:ff:ff	not learned	n/a	n/a

```
-----  
No. of MAC Entries: 1  
=====
```

\*A:ALA-48>show>service>id# mac-protect

## mld-snooping

**Syntax** **mld-snooping**

**Context** show>service>id

**Description** This command displays MLD snooping information.

## all

**Syntax** **all**

**Context** show>service>id>mld-snooping

**Description** This command displays detailed information about MLD snooping.

## base

<b>Syntax</b>	<b>base</b>
<b>Context</b>	show>service>id>mld-snooping
<b>Description</b>	This command displays basic MLD snooping information.

## mroutes

<b>Syntax</b>	<b>mroutes [detail]</b>
<b>Context</b>	show>service>id>mld-snooping
<b>Description</b>	This command displays all multicast routers.

## Show, Clear, Debug Commands

### mvr

<b>Syntax</b>	<b>mvr</b>
<b>Context</b>	show>service>id>mld-snooping
<b>Description</b>	This command displays multicast VPLS registration information.

### port-db

<b>Syntax</b>	<b>port-db sap <i>sap-id</i></b> <b>port-db sap <i>sap-id</i> detail</b> <b>port-db sap <i>sap-id</i> group <i>grp-ipv6-address</i></b> <b>port-db sdp <i>sdp-id:vc-id</i> [detail]</b> <b>port-db sdp <i>sdp-id:vc-id</i> group <i>grp-ipv6-address</i></b>
<b>Context</b>	show>service>id>mld-snooping
<b>Description</b>	This command displays MLD snooping information related to a specific SAP.

### proxy-db

<b>Syntax</b>	<b>proxy-db [detail]</b> <b>proxy-db group <i>grp-ip-address</i></b>
<b>Context</b>	show>service>id>mld-snooping
<b>Description</b>	This command displays proxy-reporting database entries.
<b>Parameters</b>	<i>grp-ip-address</i> — Displays the IGMP snooping proxy reporting database for a specific multicast group address. <b>detail</b> — Displays detailed information about the proxy-reporting database,

### querier

<b>Syntax</b>	<b>querier</b>
<b>Context</b>	show>service>id>mld-snooping
<b>Description</b>	This command displays information about the current querier.

### static

<b>Syntax</b>	<b>static [sap <i>sap-id</i>   sdp <i>sdp-id:vc-id</i>]</b>
<b>Context</b>	show>service>id>mld-snooping

**Description** This command displays MLD snooping static group membership data.

## statistics

**Syntax** **statistics** [**sap** *sap-id* | **sdp** *sdp-id:vc-id*]

**Context** show>service>id>mld-snooping

**Description** This command displays MLD snooping statistics.

## mrp-policy

**Syntax** **mrp-policy** [*mrp-policy*]  
**mrp-policy** *mrp-policy* [**association**]  
**mrp-policy** *mrp-policy* [**entry** *entry-id*]

**Context** show>service>id

**Description** This command displays information on an MRP policy.

**Parameters** *mrp-policy* — Specifies the MRP policy name.

**Values** 32 chars max

*entry-id* — Specifies the entry ID number.

**Values** 1..65535

**Output** \*A:PE-B# show service mrp-policy

```
=====
Mrp Policies
=====
Mrp-Policy                               Scope      Applied Description
-----
1                                         template  Yes
2                                         template  Yes
-----
Total: 2
=====
```

\*A:PE-B# show service mrp-policy "1"

```
=====
Mrp Policy
=====
Policy Name : 1                               Applied      : Yes
Scope       : template                       Def. Action  : block
Entries     : 1
Description : (Not Specified)
-----
Mrp Policy Entries
-----
```

## Show, Clear, Debug Commands

```
Entry      : 1                               Match action : end-station
Description : (Not Specified)
isid       : 10..11
```

```
=====
*A:PE-B#
```

## mmp

- Syntax** `mmp mac [ieee-address]`
- Context** `show>service>id`
- Description** This command displays information on MACs. If a MAC address is specified, information will be displayed relevant to the specific group. No parameter will display information on all group MACs on a server.
- Parameters** *ieee-address* — Hex string: xx:xx:xx:xx:xx:xx: or xx-xx-xx-xx-xx-xx

**Output**

```
*A:PE-A# show service id 10 mmp mac 01:1E:83:00:00:65
```

```
-----
SAP/SDP                               MAC Address      Registered  Declared
-----
sap:1/1/4:10                          01:1e:83:00:00:65 No           Yes
sap:1/2/2:10                          01:1e:83:00:00:65 No           Yes
sap:2/2/5:10                          01:1e:83:00:00:65 Yes          Yes
-----
```

```
*A:PE-A#
```

```
*A:PE-A# show service id 10 mmp mac
```

```
-----
SAP/SDP                               MAC Address      Registered  Declared
-----
sap:1/1/4:10                          01:1e:83:00:00:65 No           Yes
sap:1/1/4:10                          01:1e:83:00:00:66 No           Yes
sap:1/1/4:10                          01:1e:83:00:00:67 No           Yes
sap:1/1/4:10                          01:1e:83:00:00:68 No           Yes
sap:1/1/4:10                          01:1e:83:00:00:69 No           Yes
sap:1/1/4:10                          01:1e:83:00:00:6a No           Yes
sap:1/1/4:10                          01:1e:83:00:00:6b No           Yes
sap:1/1/4:10                          01:1e:83:00:00:6c No           Yes
sap:1/1/4:10                          01:1e:83:00:00:6d No           Yes
sap:1/1/4:10                          01:1e:83:00:00:6e No           Yes
sap:1/2/2:10                          01:1e:83:00:00:65 No           Yes
sap:1/2/2:10                          01:1e:83:00:00:66 No           Yes
sap:1/2/2:10                          01:1e:83:00:00:67 No           Yes
sap:1/2/2:10                          01:1e:83:00:00:68 No           Yes
sap:1/2/2:10                          01:1e:83:00:00:69 No           Yes
sap:1/2/2:10                          01:1e:83:00:00:6a No           Yes
sap:1/2/2:10                          01:1e:83:00:00:6b No           Yes
sap:1/2/2:10                          01:1e:83:00:00:6c No           Yes
sap:1/2/2:10                          01:1e:83:00:00:6d No           Yes
sap:1/2/2:10                          01:1e:83:00:00:6e No           Yes
sap:2/2/5:10                          01:1e:83:00:00:65 Yes          Yes
sap:2/2/5:10                          01:1e:83:00:00:66 Yes          Yes
sap:2/2/5:10                          01:1e:83:00:00:67 Yes          Yes
sap:2/2/5:10                          01:1e:83:00:00:68 Yes          Yes
sap:2/2/5:10                          01:1e:83:00:00:69 Yes          Yes
-----
```



```

sap:2/2/5:10          01:1e:83:00:00:6a Yes      Yes
sap:2/2/5:10          01:1e:83:00:00:6b Yes      Yes
sap:2/2/5:10          01:1e:83:00:00:6c Yes      Yes
sap:2/2/5:10          01:1e:83:00:00:6d Yes      Yes
sap:2/2/5:10          01:1e:83:00:00:6e Yes      Yes
-----

```

```
*A:PE-A#
```

## mstp-configuration

<b>Syntax</b>	<b>mstp-configuration</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays the MSTP specific configuration data. This command is only valid on a management VPLS.

## provider-tunnel

<b>Syntax</b>	<b>provider-tunnel</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays the service provider tunnel information.

**Output** \*A:Dut-B# show service id 1 provider-tunnel

```

=====
Service Provider Tunnel Information
=====

```

```

Type                : inclusive          Root and Leaf      : enabled
Admin State         : inService          Data Delay Intvl   : 3 secs
PMSI Type           : ldp                LSP Template       :
Remain Delay Intvl : 0 secs             LSP Name used      : 8193
=====

```

```
*A:Dut-B# /tools dump service id 1 provider-tunnels type originating
```

```

=====
VPLS 1 Inclusive Provider Tunnels Originating
=====

```

```

-----
ipmsi (LDP)                P2MP-ID  Root-Addr
-----
8193                        8193     10.20.1.2
-----

```

```
*A:Dut-B# /tools dump service id 1 provider-tunnels type terminating
```

```

=====
VPLS 1 Inclusive Provider Tunnels Terminating
=====

```

```

-----
ipmsi (LDP)                P2MP-ID  Root-Addr
-----
                        8193     10.20.1.3
                        8193     10.20.1.4
                        8193     10.20.1.6
-----

```

## Show, Clear, Debug Commands

```
8193 10.20.1.7
-----
*A:Dut-B# /tools dump service id 1 provider-tunnels
=====
VPLS 1 Inclusive Provider Tunnels Originating
=====
ipmsi (LDP)                                P2MP-ID  Root-Addr
-----
8193                                         8193    10.20.1.2
-----
-----
=====
VPLS 1 Inclusive Provider Tunnels Terminating
=====
ipmsi (LDP)                                P2MP-ID  Root-Addr
-----
                                         8193    10.20.1.3
                                         8193    10.20.1.4
                                         8193    10.20.1.6
                                         8193    10.20.1.7
-----
-----
```

## provider-tunnel

**Syntax** provider-tunnel

**Context** show>service>id

**Description** This command displays provider tunnel information.

### Sample Output

```
*A:Dut-B# show service id 1 provider-tunnel
=====
Service Provider Tunnel Information
=====
Type           : inclusive           Root and Leaf      : enabled
Admin State    : inService           Data Delay Intvl   : 3 secs
PMSI Type      : ldp                 LSP Template      :
Remain Delay Intvl : 0 secs           LSP Name used     : 8193
=====
*A:Dut-B# /tools dump service id 1 provider-tunnels type originating
=====
VPLS 1 Inclusive Provider Tunnels Originating
=====
ipmsi (LDP)                                P2MP-ID  Root-Addr
-----
8193                                         8193    10.20.1.2
-----
-----
```

```
*A:Dut-B# /tools dump service id 1 provider-tunnels type terminating
```

```
=====
VPLS 1 Inclusive Provider Tunnels Terminating
=====
```

ipmsi (LDP)	P2MP-ID	Root-Addr
	8193	10.20.1.3
	8193	10.20.1.4
	8193	10.20.1.6
	8193	10.20.1.7

```
-----
```

```
*A:Dut-C# show service id 1001 provider-tunnel
```

```
=====
Service Provider Tunnel Information
=====
```

Type	: inclusive	Root and Leaf	: enabled
Admin State	: inService	Data Delay Intvl	: 3 secs
PMSI Type	: rsvp	LSP Template	: ipmsi
Remain Delay Intvl	: 0 secs	LSP Name used	: ipmsi-1001-73728

```
=====
```

## proxy-arp

**Syntax** `proxy-arp [ip-address ip-address] [detail]`

**Context** `show>service>id`

**Description** This command displays the proxy-ARP entries existing for a particular service. A 7x50 receiving an ARP request from a SAP or SDP-binding will perform a lookup in the proxy-arp table for the service. If the 7x50 finds a match, it will reply to the ARP and will not let the ARP be flooded in the VPLS service. If the 7x50 does not find a match, the ARP will be flooded within the service. The command allows for a specific IP addresses to be shown.

The "detail" modifier allows the user to display all the entries. An individual ip-address entry can also be shown.

**Output** **Sample Output**

```
:PE71(1)# show service id 600 proxy-arp
```

```
-----
Proxy Arp
-----
```

Admin State	: enabled		
Dyn Populate	: enabled		
Age Time	: 200 secs	Send Refresh	: 120 secs

```
Dup Detect
-----
```

## Show, Clear, Debug Commands

```
Detect Window      : 3 mins           Num Moves         : 3
Hold down         : max
Anti Spoof MAC    : 00:ca:ca:ca:ca:ca

EVPN
-----
Garp Flood        : disabled          Req Flood         : disabled
-----
A:PE71(1)# show service id 600 proxy-arp detail
-----
Proxy Arp
-----
Admin State       : enabled
Dyn Populate      : enabled
Age Time          : 200 secs          Send Refresh      : 120 secs

Dup Detect
-----
Detect Window     : 3 mins           Num Moves         : 3
Hold down         : max
Anti Spoof MAC    : 00:ca:ca:ca:ca:ca

EVPN
-----
Garp Flood        : disabled          Req Flood         : disabled
-----
=====
VPLS Proxy Arp Entries
=====
IP Address        Mac Address      Type      Status      Last Update
-----
172.16.0.1        00:ca:fe:ca:fe:02 evpn      active      12/01/2014 12:02:27
172.16.0.61       00:ca:de:ba:ca:00 dyn       active      12/01/2014 15:40:10
172.16.0.100     00:00:00:00:00:01 stat      inActv     12/01/2014 12:01:57
172.16.0.102     00:00:00:00:00:02 stat      inActv     12/01/2014 12:01:57
-----
Number of entries : 4
=====
A:PE71(1)#
```

## proxy-nd

**Syntax** proxy-nd [ip-address ip-address] [detail]

**Context** show>service>id

**Description** This command displays the information about the proxy-nd settings configured in a given service. The "detail" modifier allows the user to display all the entries. An individual ip-address entry can also be shown.

**Output** Sample Output

```
:PE71(1)# show service id 600 proxy-nd
-----
Proxy nd
-----
```

```

Admin State      : enabled
Dyn Populate     : enabled
Age Time        : 200 secs          Send Refresh    : 120 secs

Dup Detect
-----
Detect Window    : 3 mins          Num Moves       : 3
Hold down       : max
Anti Spoof MAC   : 00:ca:ca:ca:ca:ca

EVPN
-----
Garp Flood      : disabled        Req Flood       : disabled

A:PE71(1)# show service id 600 proxy-nd detail
-----
Proxy nd
-----
Admin State      : enabled
Dyn Populate     : enabled
Age Time        : 200 secs          Send Refresh    : 120 secs

Dup Detect
-----
Detect Window    : 3 mins          Num Moves       : 3
Hold down       : max
Anti Spoof MAC   : 00:ca:ca:ca:ca:ca

EVPN
-----
Garp Flood      : disabled        Req Flood       : disabled

=====
VPLS Proxy ND Entries
=====
IP Address      Mac Address      Type      Status      Last Update
-----
172.16.0.1      00:ca:fe:ca:fe:02  evpn      active      12/01/2014 12:02:27
172.16.0.61     00:ca:de:ba:ca:00  dyn       active      12/01/2014 15:40:10
172.16.0.100    00:00:00:00:00:01  stat      inActv     12/01/2014 12:01:57
172.16.0.102    00:00:00:00:00:02  stat      inActv     12/01/2014 12:01:57
-----
Number of entries : 4
=====
A:PE71(1)#

```

## retailers

<b>Syntax</b>	<b>retailers</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays the service ID of the retailer subscriber service to which this DHCP lease belongs.

## wholesalers

<b>Syntax</b>	<b>wholesalers</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays service wholesaler information.

## vxlan

<b>Syntax</b>	<b>vxlan</b>
<b>Context</b>	show>service>id show>service
<b>Description</b>	This command displays the VXLAN bindings auto-created in a given service. A VXLAN binding is composed of the remote VTEP (VXLAN Termination Endpoint) and the corresponding egress VNI (VXLAN Network Identifier) to identify the service at the egress node. The command shows the number of MACs associated to each binding as well as the operational status if the binding is part of the multicast list. The binding will be operationally down when the VTEP address is not found in the base routing table (the VTEP address cannot be reached). A binding will be part of the multicast list if a valid BGP EVPN inclusive multicast route exists for it.

**Output Sample Output**

```
*A:DutA# show service id 1 vxlan
=====
VPLS VXLAN, Ingress VXLAN Network Id: 1
=====
Egress VTEP, VNI
=====
VTEP Address          Egress VNI    Num. MACs    In Mcast List?  Oper State
-----
192.0.0.71             1              1             Yes              Up
192.0.0.72             1              0             Yes              Up
192.0.0.74             1              0             Yes              Up
192.0.0.76             1              1             Yes              Down
192.168.45.2          1              0             Yes              Down
-----
Number of Egress VTEP, VNI : 5
=====
A:DutB# show service vxlan
<vtep>
 192.0.2.65  192.0.2.66

A:PE63# show service vxlan 192.0.2.65
=====
VXLAN Tunnel Endpoint: 192.0.2.65
=====
Egress VNI          Service Id    Oper State
-----
60                   60            Up
-----
```

## sap

- Syntax** `sap sap-id [filter]`
- Context** `show>service>id`
- Description** This command displays information for the SAPs associated with the service. If no optional parameters are specified, a summary of all associated SAPs is displayed.
- Parameters** `sap sap-id` — The ID that displays SAPs for the service in the `slot/mdalport[.channel]` form. See [Common CLI Command Descriptions on page 1271](#) for command syntax.
- `detail` — Displays detailed information for the SAP.
- `filter` — Specifies a search term to narrow down the results.
- Values** atm, base, detail, dhcp, mc-ring, mcac, mrp, qos, sap-stats, stats, stp, sub-mgmt
- Output** **Show Service-ID SAP** — The following table describes show service SAP fields:

Label	Description
Service Id	The service identifier.
SAP	The SAP and qtag.
Encap	The encapsulation type of the SAP.
Ethertype	Specifies an Ethernet type II Ethertype value.
Admin State	The administrative state of the SAP.
Oper State	The operational state of the SAP.
Flags	Specifies the conditions that affect the operating status of this SAP. Display output includes: ServiceAdminDown, SapAdminDown, InterfaceAdminDown, PortOperDown, PortMTUTooSmall, L2OperDown, SapIngressQoSMismatch, SapEgressQoSMismatch, RelearnLimitExceeded, RxProtSrcMac, ParentIfAdminDown, NoSapIpipeCeIpAddr, TodResourceUnavail, TodMssResourceUnavail, SapParamMismatch, CemSapNoEcidOrMacAddr, StandByForMcRing, ServiceMTUTooSmall, SapIngressNamedPoolMismatch, SapEgressNamedPoolMismatch, NoSapEpipeRingNode.
Last Status Change	Specifies the time of the most recent operating status change to this SAP
Last Mgmt Change	Specifies the time of the most recent management-initiated change to this SAP.
Admin MTU	The largest service frame size (in octets) that can be transmitted through the SAP to the far-end router, without requiring the packet to be fragmented.

Label	Description (Continued)
Oper MTU	The actual largest service frame size (in octets) that can be transmitted through the SAP to the far-end router, without requiring the packet to be fragmented.
Ingress qos-policy	The ingress QoS policy ID assigned to the SAP.
Egress qos-policy	The egress QoS policy ID assigned to the SAP.
Ingress Filter-Id	The ingress filter policy ID assigned to the SAP.
Egress Filter-Id	The egress filter policy ID assigned to the SAP.
Acct. Pol	The accounting policy ID assigned to the SAP.
Collect Stats	Specifies whether collect stats is enabled.
Forwarding Engine Stats	
Dropped	The number of packets and octets dropped due to SAP state, ingress MAC or IP filter, same segment discard, bad checksum, etc.
Received Valid	The number of valid packets and octets received on the SAP.
Off. HiPrio	The number of high priority packets and octets, as determined by the SAP ingress QoS policy.
Off. LowPrio	The number of low priority packets and octets, as determined by the SAP ingress QoS policy.
Off. Uncolor	The number of uncolored packets and octets, as determined by the SAP ingress QoS policy.
Queueing Stats (Ingress QoS Policy)	
Dro. HiPrio	The number of high priority packets and octets, as determined by the SAP ingress QoS policy, dropped due to: MBS exceeded, buffer pool limit exceeded, etc.
Dro. LowPrio	The number of low priority packets and octets, as determined by the SAP ingress QoS policy, dropped due to: MBS exceeded, buffer pool limit exceeded, etc.
For. InProf	The number of in-profile packets and octets (rate below CIR) forwarded.
For. OutProf	The number of out-of-profile packets and octets discarded due to MBS exceeded, buffer pool limit exceeded, etc.
Queueing Stats (Egress QoS Policy)	
Dro. InProf	The number of in-profile packets and octets discarded due to MBS exceeded, buffer pool limit exceeded, etc.
Dro. OutProf	The number of out-of-profile packets and octets due to MBS exceeded, buffer pool limit exceeded, etc.



Label	Description (Continued)
For. InProf	The number of in-profile packets and octets (rate below CIR) forwarded.
For. OutProf	The number of out-of-profile packets and octets (rate above CIR) forwarded.
Ingress TD Profile	The profile ID applied to the ingress SAP.
Egress TD Profile	The profile ID applied to the egress SAP.
Alarm Cell Handling	The indication that OAM cells are being processed.
AAL-5 Encap	The AAL-5 encapsulation type.

### Sample Output

```
*A:PE# show service id 1 sap 1/1/1:1 detail
=====
Service Access Points(SAP)
=====
Service Id      : 1
SAP             : 1/1/1:1          Encap           : q-tag
Description    : (Not Specified)
Admin State    : Up              Oper State      : Up
Flags          : None
Multi Svc Site : None
Last Status Change : 01/29/2015 10:51:49
Last Mgmt Change  : 01/28/2015 11:48:21
Sub Type       : regular
Dot1Q Ethertype : 0x8100          QinQ Ethertype  : 0x8100
Split Horizon Group: (Not Specified)

Etree Root Leaf Tag: Disabled      Etree Leaf Tag : 0
Etree Leaf AC      : Disabled
Max Nbr of MAC Addr: No Limit      Total MAC Addr  : 0
Learned MAC Addr   : 0              Static MAC Addr  : 0
OAM MAC Addr       : 0              DHCP MAC Addr   : 0
Host MAC Addr      : 0              Intf MAC Addr   : 0
SPB MAC Addr       : 0              Cond MAC Addr   : 0
BGP EVPN Addr      : 0              EVPN Static Addr : 0
Admin MTU          : 1518           Oper MTU        : 1518
Ingr IP Fltr-Id    : n/a           Egr IP Fltr-Id  : n/a
Ingr Mac Fltr-Id   : n/a           Egr Mac Fltr-Id : n/a
Ingr IPv6 Fltr-Id : n/a           Egr IPv6 Fltr-Id : n/a
tod-suite          : None           qinq-pbit-marking : both
Egr Agg Rate Limit: max
Limit Unused BW   : Disabled
Host Conn Verify  : Disabled
Discard Unkwn Srce: Disabled
Mac Pinning       : Disabled

Q Frame-Based Acct : Disabled
ARP Reply Agent    : Disabled
Mac Learning       : Enabled
Mac Aging          : Enabled
BPDU Translation   : Disabled
L2PT Termination   : Disabled
Vlan-translation   : None

Acct. Pol         : None           Collect Stats    : Disabled
```

## Show, Clear, Debug Commands

```
Anti Spoofing      : None
Avl Static Hosts   : 0
Calling-Station-Id : n/a

Application Profile: None
Transit Policy     : None

Oper Group         : (none)
Host Lockout Plcy : n/a
Lag Link Map Prof  : (none)
Cflowd            : Disabled
MCAC Policy Name   :
MCAC Max Unconst BW: no limit
MCAC In use Mand BW: 0
MCAC In use Opnl BW: 0
Use LAG port weight: no
Restr MacProt Src  : Disabled
Auto Learn Mac Prot: Disabled
Time to RetryReset : never
Mac Move           : Blockable
Egr MCast Grp     :
Auth Policy        : None

Dynamic Hosts      : Enabled
Tot Static Hosts   : 0

Monitor Oper Grp   : (none)

MCAC Const Adm St : Enable
MCAC Max Mand BW  : no limit
MCAC Avail Mand BW: unlimited
MCAC Avail Opnl BW: unlimited

Restr MacUnpr Dst : Disabled
RestProtSrcMacAct : Disable
Retries Left       : 3
Blockable Level    : Tertiary
-----
ETH-CFM SAP specifics
-----
Tunnel Faults      : n/a
MC Prop-Hold-Timer : n/a
Squelch Levels     : None

AIS                : Disabled
V-MEP Filtering    : Disabled
-----
Stp Service Access Point specifics
-----
Stp Admin State    : Up
Core Connectivity  : Down
Port Role          : N/A
Port Number        : N/A
Port Path Cost     : 10
Admin Edge         : Disabled
Link Type          : Pt-pt
Root Guard         : Disabled
Last BPDU from     : N/A
CIST Desig Bridge  : N/A

Stp Oper State     : Down
Port State         : Forwarding
Port Priority       : 128
Auto Edge          : Enabled
Oper Edge          : N/A
BPDU Encap        : Dot1d
Active Protocol    : N/A
Designated Port    : N/A

Forward transitions: 0
Cfg BPDUs rcvd    : 0
TCN BPDUs rcvd    : 0
TC bit BPDUs rcvd : 0
RST BPDUs rcvd    : 0
MST BPDUs rcvd    : 0

Bad BPDUs rcvd    : 0
Cfg BPDUs tx      : 0
TCN BPDUs tx      : 0
TC bit BPDUs tx   : 0
RST BPDUs tx      : 0
MST BPDUs tx      : 0
-----
ARP host
-----
Admin State        : outOfService
Host Limit         : 1
Min Auth Interval  : 15 minutes
-----
QOS
-----
Ingress qos-policy : 1
Ingress FP QGrp    : (none)
Ing FP QGrp Inst   : (none)
Shared Q plcy      : n/a

Egress qos-policy  : 30
Egress Port QGrp   : (none)
Egr Port QGrp Inst: (none)
Multipoint shared   : Disabled
```

```

I. Sched Pol      : (Not Specified)
E. Sched Pol      : test2
I. Policer Ctl Pol : (Not Specified)
E. Policer Ctl Pol : (Not Specified)

```

---

DHCP

---

```

Description      : (Not Specified)
Admin State      : Down
DHCP Snooping    : Down
Lease Populate   : 0
Action          : Keep

Proxy Admin State : Down
Proxy Lease Time  : N/A
Emul. Server Addr : Not Configured

```

---

Subscriber Management

---

```

Admin State      : Down
Def Sub-Id       : None
Def Sub-Profile  : None
Def SLA-Profile  : None
Def Inter-Dest-Id : None
Def App-Profile  : None
Sub-Ident-Policy : None
MAC DA Hashing   : False

Subscriber Limit : 1
Single-Sub-Parameters
Prof Traffic Only : False
Non-Sub-Traffic  : N/A

```

---

Sap Statistics

---

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

	Packets	Octets
CPM Ingress	: 0	0

---

Forwarding Engine Stats

Dropped	: 0	0
Off. HiPrio	: 0	0
Off. LowPrio	: 0	0
Off. Uncolor	: 0	0
Off. Managed	: 0	0

---

Queueing Stats(Ingress QoS Policy 1)

Dro. HiPrio	: 0	0
Dro. LowPrio	: 0	0
For. InProf	: 0	0
For. OutProf	: 0	0

---

Queueing Stats(Egress QoS Policy 30)

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

---

Sap per Queue stats

---

	Packets	Octets
Ingress Queue 1 (Unicast) (Priority)		

## Show, Clear, Debug Commands

```

Off. HiPrio          : 0          0
Off. LowPrio         : 0          0
Dro. HiPrio          : 0          0
Dro. LowPrio         : 0          0
For. InProf          : 0          0
For. OutProf         : 0          0

Ingress Queue 11 (Multipoint) (Priority)
Off. HiPrio          : 0          0
Off. LowPrio         : 0          0
Off. Managed         : 0          0
Dro. HiPrio          : 0          0
Dro. LowPrio         : 0          0
For. InProf          : 0          0
For. OutProf         : 0          0

Egress Queue 1
For. InProf          : 0          0
For. OutProf         : 0          0
Dro. InProf          : 0          0
Dro. OutProf         : 0          0
=====
*A:PE#

*A:PE-A# show service id 10 sap 2/2/5:10 mrp
=====
Service Access Points(SAP)
=====
Service Id          : 10
SAP                 : 2/2/5:10          Encap           : q-tag
Description         : Default sap description for service id 10
Admin State         : Up              Oper State       : Up
Flags               : None
Multi Svc Site      : None
Last Status Change  : 01/16/2008 09:37:57
Last Mgmt Change    : 01/16/2008 09:37:41
-----
SAP MRP Information
-----
Join Time           : 0.2 secs          Leave Time       : 1.0 secs
Leave All Time      : 10.0 secs         Periodic Time    : 1.0 secs
Periodic Enabled    : false
Rx Pdus            : 11                Tx Pdus         : 12
Dropped Pdus       : 0                Tx Pdus         : 12
Rx New Event       : 0                Rx Join-In Event : 150
Rx In Event        : 10               Rx Join Empty Evt : 10
Rx Empty Event     : 10               Rx Leave Event   : 0
Tx New Event       : 0                Tx Join-In Event : 140
Tx In Event        : 0                Tx Join Empty Evt : 20
Tx Empty Event     : 10               Tx Leave Event   : 0
-----
SAP MMRP Information
-----
MAC Address         Registered      Declared
-----
01:1e:83:00:00:65 Yes                Yes
01:1e:83:00:00:66 Yes                Yes
01:1e:83:00:00:67 Yes                Yes
01:1e:83:00:00:68 Yes                Yes
01:1e:83:00:00:69 Yes                Yes
01:1e:83:00:00:6a Yes                Yes

```

```

01:1e:83:00:00:6b Yes Yes
01:1e:83:00:00:6c Yes Yes
01:1e:83:00:00:6d Yes Yes
01:1e:83:00:00:6e Yes Yes
-----
Number of MACs=10 Registered=10 Declared=10
-----
*A:PE-A#

```

## sdp

- Syntax** **sdp** *sdp-id:vc-id* {*mrp*}  
**sdp** [*sdp-id* | **far-end** *ip-addr*] [**detail**]
- Context** show>service>id
- Description** This command displays information for the SDPs associated with the service. If no optional parameters are specified, a summary of all associated SDPs is displayed.
- Parameters** *sdp-id* — Displays only information for the specified SDP ID.
- Default** All SDPs
- Values** 1 — 17407
- far-end** *ip-addr* — Displays only SDPs matching with the specified far-end IP address.
- Default** SDPs with any far-end IP address.
- detail** — Displays detailed SDP information.
- Output** **Show Service-ID SDP** — The following table describes show service-id SDP output fields.

Label	Description
Sdp Id	The SDP identifier.
Type	Indicates whether the SDP is spoke or mesh.
Split Horizon Group	Indicates the name of the split horizon group that the SDP belongs to.
VC Type	Displays the VC type: ether, vlan, or vpls.
VC Tag	Displays the explicit dot1Q value used when encapsulating to the SDP far end.
I. Lbl	The VC label used by the far-end device to send packets to this device in this service by the SDP.
Admin Path MTU	The operating path MTU of the SDP is equal to the admin path MTU (when one is set) or the dynamically computed tunnel MTU, when no admin path MTU is set (the default case.)

Label	Description (Continued)
Oper Path MTU	The actual largest service frame size (in octets) that can be transmitted through this SDP to the far-end router, without requiring the packet to be fragmented.
Far End	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP.
Delivery	Specifies the type of delivery used by the SDP: GRE or MPLS.
Admin State	The administrative state of this SDP.
Oper State	The current status of the SDP.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.
Egress Label	The label used by this device to send packets to the far-end device in this service by the SDP.
Last Changed	The date and time of the most recent change to the SDP.
Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on this SDP.
Admin State	The administrative state of the Keepalive process.
Oper State	The operational state of the Keepalive process.
Hello Time	Specifies how often the SDP echo request messages are transmitted on this SDP.
Max Drop Count	Specifies the maximum number of consecutive SDP Echo Request messages that can be unacknowledged before the keepalive protocol reports a fault.
Hello Msg Len	Specifies the length of the SDP echo request messages transmitted on this SDP.
Hold Down Time	Specifies the amount of time to wait before the Keepalive operating status is eligible to enter the alive state.
I. Fwd. Pkts.	Specifies the number of forwarded ingress packets.
I. Dro. Pkts	Specifies the number of dropped ingress packets.
E. Fwd. Pkts.	Specifies the number of forwarded egress packets.
E. Fwd. Octets	Specifies the number of forwarded egress octets.
Associated LSP List	When the SDP type is MPLS, a list of LSPs used to reach the far-end router displays. All the LSPs in the list must terminate at the IP address specified in the far end field. If the SDP type is GRE, then the following message displays: SDP delivery mechanism is not MPLS

Label	Description (Continued)
Peer Pw Bits	<p>Indicates the bits set by the LDP peer when there is a fault on its side of the pseudowire. LAC failures occur on the SAP that has been configured on the pipe service, PSN bits are set by SDP-binding failures on the pipe service. The pwNotForwarding bit is set when none of the above failures apply, such as an MTU mismatch failure. This value is only applicable if the peer is using the pseudowire status signalling method to indicate faults.</p> <p>pwNotForwarding — Pseudowire not forwarding  lacIngressFault Local — Attachment circuit RX fault  lacEgressFault Local — Attachment circuit TX fault  psnIngressFault Local — PSN-facing PW RX fault  psnEgressFault Local — PSN-facing PW TX fault  pwFwdingStandby — Pseudowire in standby mode</p>

### Sample Output

```
*A:Dut-C# show service id 1001 sdp 17407:4294967295 detail
=====
Service Destination Point (Sdp Id : 17407:4294967295) Details
=====
-----
Sdp Id 17407:4294967295  -(0.0.0.0)
-----
Description      : (Not Specified)
SDP Id           : 17407:4294967295      Type           : VplsPmsi
Split Horiz Grp  : (Not Specified)
VC Type          : Ether                  VC Tag          : n/a
Admin Path MTU   : 9194                   Oper Path MTU   : 9194
Far End          : not applicable          Delivery         : MPLS
Tunnel Far End   : n/a                    LSP Types       : None
Hash Label       : Disabled                Hash Lbl Sig Cap : Disabled
Oper Hash Label  : Disabled
Admin State      : Up                      Oper State       : Up
Acct. Pol        : None                    Collect Stats    : Disabled
Ingress Label    : 0                       Egress Label     : 3
Ingr Mac Fltr-Id : n/a                    Egr Mac Fltr-Id : n/a
```

## Show, Clear, Debug Commands

```
Ingr IP Fltr-Id      : n/a                      Egr IP Fltr-Id      : n/a
Ingr IPv6 Fltr-Id   : n/a                      Egr IPv6 Fltr-Id    : n/a
Admin ControlWord   : Not Preferred             Oper ControlWord    : False
Last Status Change  : 01/31/2012 00:51:46      Signaling           : None
Last Mgmt Change    : 01/31/2012 00:49:58      Force Vlan-Vc      : Disabled
Endpoint            : N/A                      Precedence          : 4
PW Status Sig       : Enabled
Class Fwding State  : Down
Flags               : None
Time to RetryReset  : never                    Retries Left        : 3
Mac Move            : Blockable                 Blockable Level     : Tertiary
Local Pw Bits       : None
Peer Pw Bits        : None
Peer Fault Ip       : None
Application Profile  : None
Max Nbr of MAC Addr: No Limit                  Total MAC Addr      : 0
Learned MAC Addr    : 0                       Static MAC Addr     : 0

MAC Learning        : Enabled                  Discard Unkwn Srce : Disabled
MAC Aging           : Enabled
BPDU Translation    : Disabled
L2PT Termination    : Disabled
MAC Pinning         : Disabled
Ignore Standby Sig  : False                    Block On Mesh Fail  : False
Oper Group          : (none)                   Monitor Oper Grp    : (none)
Rest Prot Src Mac   : Disabled
Auto Learn Mac Prot: Disabled                  RestProtSrcMacAct   : Disable

Ingress Qos Policy  : (none)                   Egress Qos Policy   : (none)
Ingress FP QGrp     : (none)                   Egress Port QGrp    : (none)
```



## VPLS Show Commands

```
Ing FP QGrp Inst      : (none)                      Egr Port QGrp Inst: (none)

-----

ETH-CFM SDP-Bind specifics

-----

V-MEP Filtering      : Disabled

KeepAlive Information :

Admin State          : Disabled                      Oper State          : Disabled
Hello Time           : 10                           Hello Msg Len       : 0
Max Drop Count       : 3                             Hold Down Time      : 10

Statistics           :

I. Fwd. Pkts.        : 0                            I. Dro. Pkts.       : 0
I. Fwd. Octs.        : 0                            I. Dro. Octs.       : 0
E. Fwd. Pkts.        : 5937639                      E. Fwd. Octets      : 356258340

MCAC Policy Name     :

MCAC Max Unconst BW: no limit                       MCAC Max Mand BW   : no limit
MCAC In use Mand BW: 0                             MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                             MCAC Avail Opnl BW: unlimited

-----

RSVP/Static LSPs

-----

Associated LSP List :

No LSPs Associated

-----

Class-based forwarding :

-----

Class forwarding     : Disabled                      EnforceDSTELspFc   : Disabled
Default LSP          : Uknwn                          Multicast LSP       : None

=====
FC Mapping Table
```

## Show, Clear, Debug Commands

```
=====
FC Name          LSP Name
-----
No FC Mappings

-----
Stp Service Destination Point specifics
-----

Stp Admin State   : Down                Stp Oper State    : Down
Core Connectivity : Down
Port Role         : N/A                Port State        : Forwarding
Port Number       : 0                  Port Priority      : 128
Port Path Cost    : 10                 Auto Edge         : Enabled
Admin Edge        : Disabled           Oper Edge         : N/A
Link Type         : Pt-pt              BPDU Encap       : Dot1d
Root Guard        : Disabled           Active Protocol   : N/A
Last BPDU from    : N/A
Designated Bridge : N/A                Designated Port Id: N/A

Fwd Transitions   : 0                  Bad BPDUs rcvd   : 0
Cfg BPDUs rcvd    : 0                  Cfg BPDUs tx     : 0
TCN BPDUs rcvd    : 0                  TCN BPDUs tx     : 0
TC bit BPDUs rcvd : 0                  TC bit BPDUs tx  : 0
RST BPDUs rcvd    : 0                  RST BPDUs tx     : 0

-----
Number of SDPs : 1
-----
=====

A:Dut-A# show service id 1 sdp detail
=====
Services: Service Destination Points Details
=====
Sdp Id 1:1  -(10.20.1.2)
```

```

-----
Description      : Default sdp description
SDP Id           : 1:1                               Type           : Spoke
VC Type          : Ether                             VC Tag         : n/a
Admin Path MTU   : 0                               Oper Path MTU  : 9186
Far End          : 10.20.1.2                       Delivery       : MPLS

Admin State      : Up                               Oper State     : Up
Acct. Pol       : None                             Collect Stats  : Disabled
Ingress Label   : 2048                             Egress Label   : 2048
Ing mac Fltr    : n/a                               Egr mac Fltr   : n/a
Ing ip Fltr     : n/a                               Egr ip Fltr    : n/a
Ing ipv6 Fltr   : n/a                               Egr ipv6 Fltr  : n/a
Admin ControlWord : Not Preferred                   Oper ControlWord : False
Last Status Change : 05/31/2007 00:45:43          Signaling      : None
Last Mgmt Change  : 05/31/2007 00:45:43

Class Fwding State : Up
Flags            : None
Peer Pw Bits     : None
Peer Fault Ip    : None
Peer Vccv CV Bits : None
Peer Vccv CC Bits : None
Max Nbr of MAC Addr: No Limit                       Total MAC Addr  : 0
Learned MAC Addr : 0                               Static MAC Addr  : 0

MAC Learning     : Enabled                         Discard Unkwn Srce: Disabled
MAC Aging        : Enabled
L2PT Termination : Disabled                       BPDU Translation : Disabled
MAC Pinning      : Disabled

KeepAlive Information :
Admin State      : Disabled                       Oper State     : Disabled
Hello Time      : 10                             Hello Msg Len   : 0
Max Drop Count  : 3                               Hold Down Time  : 10

Statistics       :
I. Fwd. Pkts.   : 0                               I. Dro. Pkts.   : 0
I. Fwd. Octets. : 0                               I. Dro. Octets. : 0
E. Fwd. Pkts.   : 0                               E. Fwd. Octets  : 0
MCAC Policy Name :
MCAC Max Unconst BW: no limit                       MCAC Max Mand BW : no limit
MCAC In use Mand BW: 0                             MCAC Avail Mand BW: unlimited
MCAC In use Opnl BW: 0                             MCAC Avail Opnl BW: unlimited

Associated LSP LIST :
Lsp Name        : A_B_1                           Oper State     : Up
Admin State     : Up                               Time Since Last Tr*: 00h26m35s

Lsp Name        : A_B_2                           Oper State     : Up
Admin State     : Up                               Time Since Last Tr*: 00h26m35s

Lsp Name        : A_B_3                           Oper State     : Up
Admin State     : Up                               Time Since Last Tr*: 00h26m34s

Lsp Name        : A_B_4                           Oper State     : Up
Admin State     : Up                               Time Since Last Tr*: 00h26m34s

```

## Show, Clear, Debug Commands

```
Lsp Name      : A_B_5
Admin State   : Up                               Oper State    : Up
Time Since Last Tr*: 00h26m34s

Lsp Name      : A_B_6
Admin State   : Up                               Oper State    : Up
Time Since Last Tr*: 00h26m34s

Lsp Name      : A_B_7
Admin State   : Up                               Oper State    : Up
Time Since Last Tr*: 00h26m34s

Lsp Name      : A_B_8
Admin State   : Up                               Oper State    : Up
Time Since Last Tr*: 00h26m35s

Lsp Name      : A_B_9
Admin State   : Up                               Oper State    : Up
Time Since Last Tr*: 00h26m34s

Lsp Name      : A_B_10
Admin State   : Up                               Oper State    : Up
Time Since Last Tr*: 00h26m34s
-----
Class-based forwarding :
-----
Class forwarding      : enabled
Default LSP          : A_B_10                    Multicast LSP      : A_B_9
=====
FC Mapping Table
=====
FC Name              LSP Name
-----
af                   A_B_3
be                   A_B_1
ef                   A_B_6
h1                   A_B_7
h2                   A_B_5
l1                   A_B_4
l2                   A_B_2
nc                   A_B_8
=====
Stp Service Destination Point specifics
-----
Mac Move              : Blockable
Stp Admin State      : Up                               Stp Oper State    : Down
Core Connectivity    : Down
Port Role             : N/A                             Port State        : Forwarding
Port Number          : 2049                             Port Priority     : 128
Port Path Cost       : 10                               Auto Edge        : Enabled
Admin Edge           : Disabled                         Oper Edge        : N/A
Link Type            : Pt-pt                             BPDU Encap       : Dot1d
Root Guard           : Disabled                         Active Protocol   : N/A
Last BPDU from       : N/A
Designated Bridge    : N/A                             Designated Port Id: 0

Fwd Transitions      : 0                               Bad BPDUs rcvd   : 0
Cfg BPDUs rcvd      : 0                               Cfg BPDUs tx     : 0
TCN BPDUs rcvd      : 0                               TCN BPDUs tx     : 0
RST BPDUs rcvd      : 0                               RST BPDUs tx     : 0
-----
```

```

Number of SDPs : 1
-----
* indicates that the corresponding row element may have been truncated.
-----
A:Dut-A#
show service id x all
-----
SAP 1/1/4:500
-----
Service Id      : 500
SAP             : 1/1/4:500                Encap           : q-tag
Description    : (Not Specified)
Admin State    : Up                      Oper State      : Down
Flags          : PortOperDown
Multi Svc Site : None
Last Status Change : 09/19/2013 11:43:04
Last Mgmt Change  : 09/19/2013 11:43:05
Sub Type       : regular
Dot1Q Ethertype : 0x8100                  QinQ Ethertype  : 0x8100
Split Horizon Group: (Not Specified)

Admin MTU      : 1518                    Oper MTU        : 1518
Ingr IP Fltr-Id : n/a                  Egr IP Fltr-Id  : n/a
Ingr Mac Fltr-Id : n/a                  Egr Mac Fltr-Id : n/a
Ingr IPv6 Fltr-Id : n/a                Egr IPv6 Fltr-Id : n/a
tod-suite     : None                    qinq-pbit-marking : both
                                           Egr Agg Rate Limit: max

Endpoint       : N/A
Q Frame-Based Acct : Disabled
Vlan-translation : None

Acct. Pol      : None                    Collect Stats   : Disabled

Application Profile: None
Transit Policy  : None

Oper Group     : (none)                  Monitor Oper Grp : (none)
Host Lockout Plcy : n/a
Ignore Oper Down : Disabled
Lag Link Map Prof : (none)
Cflowd        : Disabled
-----
ETH-CFM SAP specifics
-----
Tunnel Faults   : n/a                    AIS             : Disabled
MC Prop-Hold-Timer : n/a
Squelch Levels  : 0 1 2 3 4 5 6 7
-----
QOS
-----
Ingress qos-policy : 1                    Egress qos-policy : 1
.
.
.
-----
Service Destination Points (SDPs)
-----
Sdp Id 1:2  -(1.1.1.1)

```

## Show, Clear, Debug Commands

```

-----
Description      : (Not Specified)
SDP Id           : 1:2                               Type           : Spoke
Spoke Descr     : (Not Specified)
Split Horiz Grp : (Not Specified)
VC Type         : Ether                             VC Tag         : n/a
Admin Path MTU  : 0                                 Oper Path MTU  : 0
Delivery        : GRE
Far End         : 1.1.1.1
Tunnel Far End  : n/a                               LSP Types      : n/a
Hash Label      : Disabled                          Hash Lbl Sig Cap : Disabled
Oper Hash Label : Disabled

Admin State      : Up                               Oper State     : Down
Acct. Pol       : None                             Collect Stats  : Disabled
Ingress Label   : 0                                 Egress Label   : 0
Ingr Mac Fltr-Id : n/a                            Egr Mac Fltr-Id : n/a
Ingr IP Fltr-Id : n/a                            Egr IP Fltr-Id : n/a
Ingr IPv6 Fltr-Id : n/a                          Egr IPv6 Fltr-Id : n/a
Admin ControlWord : Not Preferred                    Oper ControlWord : False
Last Status Change : 09/11/2013 20:02:40           Signaling      : TLDP
Last Mgmt Change  : 09/15/2013 13:56:56           Force Vlan-Vc  : Disabled
Endpoint        : N/A                              Precedence     : 4
PW Status Sig    : Enabled
Class Fwding State : Down
Flags           : SdpOperDown
                  NoIngVCLabel NoEgrVCLabel
                  PathMTUTooSmall

Time to RetryReset : never                          Retries Left   : 3
Mac Move           : Blockable                       Blockable Level : Tertiary
Local Pw Bits     : None
Peer Pw Bits      : None
Peer Fault Ip     : None
Peer Vccv CV Bits : None
Peer Vccv CC Bits : None

Application Profile: None
Transit Policy    : None
Max Nbr of MAC Addr: No Limit                       Total MAC Addr  : 0
Learned MAC Addr  : 0                               Static MAC Addr  : 0
OAM MAC Addr     : 0                               DHCP MAC Addr   : 0
Host MAC Addr    : 0                               Intf MAC Addr   : 0
SPB MAC Addr     : 0                               Cond MAC Addr   : 0

MAC Learning      : Enabled                          Discard Unkwn Srce: Disabled
MAC Aging         : Enabled
BPDU Translation  : Disabled
L2PT Termination  : Disabled
MAC Pinning       : Disabled
Ignore Standby Sig : False                           Block On Mesh Fail: False
Oper Group        : (none)                           Monitor Oper Grp : (none)
Rest Prot Src Mac : Disabled
Auto Learn Mac Prot: Disabled                       RestProtSrcMacAct : Disable

Ingress Qos Policy : (none)                          Egress Qos Policy : (none)
Ingress FP QGrp    : (none)                          Egress Port QGrp  : (none)
Ing FP QGrp Inst   : (none)                          Egr Port QGrp Inst: (none)
-----
ETH-CFM SDP-Bind specifics
-----

```

```

V-MEP Filtering      : Disabled

KeepAlive Information :
Admin State         : Disabled           Oper State         : Disabled
Hello Time          : 10                 Hello Msg Len      : 0
Max Drop Count      : 3                 Hold Down Time     : 10

Statistics          :
I. Fwd. Pkts.       : 0                 I. Dro. Pkts.     : 0
E. Fwd. Pkts.       : 0                 E. Fwd. Octets    : 0

Squelch Levels      : 0 1 2 3 4 5 6 7

```

## site

**Syntax** `site [detail]`  
`site name`

**Context** `show>service>id`

**Description** This command displays sites configured for the service.

**Parameters** *name* — Specifies the site name.

**Values** 32 chars max

## split-horizon-group

**Syntax** `split-horizon-group [group-name]`

**Context** `show>service>id`

**Description** This command displays service split horizon groups.

```

*A:ALA-1# show service id 700 split-horizon-group
=====
Service: Split Horizon Group
=====
Name                               Description
-----
DSL-group1                          Split horizon group for DSL
-----
No. of Split Horizon Groups: 1
=====
*A:ALA-1#

*A:ALA-1# show service id 700 split-horizon-group DSL-group1
=====
Service: Split Horizon Group
=====
Name                               Description
-----
DSL-group1                          Split horizon group for DSL
-----
Associations

```

## Show, Clear, Debug Commands

```
-----  
SAP          1/1/3:1  
SDP          108:1  
SDP          109:1  
-----  
SAPs Associated : 1          SDPs Associated : 2  
=====
```

```
*A:ALA-1#
```



## stp

<b>Syntax</b>	<b>stp</b> [ <b>detail</b> ] <b>stp mst-instance</b> <i>mst-inst-number</i>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays information for the spanning tree protocol instance for the service.
<b>Parameters</b>	<b>detail</b> — Displays detailed information. <i>mst-inst-number</i> — Displays information about the specified MST. <b>Values</b> 1 — 4094
<b>Output</b>	<b>Show Service-ID STP Output</b> — The following table describes show service-id STP output fields:

Label	Description
RSTP Admin State	Indicates the administrative state of the Rapid Spanning Tree Protocol instance associated with this service.
Core Connectivity	Indicates the connectivity status to the core.
RSTP Oper State	Indicates the operational state of the Rapid Spanning Tree Protocol instance associated with this service. This field is applicable only when STP is enabled on the router.
Bridge-id	Specifies the MAC address used to identify this bridge in the network.
Hold Time	Specifies the interval length during which no more than two Configuration BPDUs shall be transmitted by this bridge.
Bridge fwd delay	Specifies how fast a bridge changes its state when moving toward the forwarding state.
Bridge Hello time	Specifies the amount of time between the transmission of Configuration BPDUs.
Bridge max age	Specifies the maximum age of Spanning Tree Protocol information learned from the network on any port before it is discarded. This is the actual value that this bridge is currently using.
Bridge priority	Defines the priority of the Spanning Tree Protocol instance associated with this service.
Topology change	Specifies whether a topology change is currently in progress.
Last Top. change	Specifies the time (in hundredths of a second) since the last time a topology change was detected by the Spanning Tree Protocol instance associated with this service.
Top. change count	Specifies the total number of topology changes detected by the Spanning Tree Protocol instance associated with this service since the management entity was last reset or initialized.

Label	Description (Continued)
Root bridge-id	Specifies the bridge identifier of the root of the spanning tree as determined by the Spanning Tree Protocol instance associated with this service. This value is used as the Root Identifier parameter in all Configuration BPDUs originated by this node.
Root path cost	Specifies the cost of the path to the root bridge as seen from this bridge.
Root forward delay	Specifies how fast the root changes its state when moving toward the forwarding state.
Root hello time	Specifies the amount of time between the transmission of configuration BPDUs.
Root max age	Specifies the maximum age of Spanning Tree Protocol information learned from the network on any port before it is discarded.
Root priority	This object specifies the priority of the bridge that is currently selected as root-bridge for the network.
Root port	Specifies the port number of the port which offers the lowest cost path from this bridge to the root bridge.
SAP Identifier	The ID of the access port where this SAP is defined.
RSTP State	The operational state of RSTP.
STP Port State	Specifies the port identifier of the port on the designated bridge for this port's segment.
BPDU encap	Specifies the type of encapsulation used on BPDUs sent out and received on this SAP.
Port Number	Specifies the value of the port number field which is contained in the least significant 12 bits of the 16-bit port ID associated with this SAP.
Priority	Specifies the value of the port priority field which is contained in the most significant 4 bits of the 16-bit port ID associated with this SAP.
Cost	Specifies the contribution of this port to the path cost of paths towards the spanning tree root which include this port.
Fast Start	Specifies whether Fast Start is enabled on this SAP.
Designated Port	Specifies the port identifier of the port on the designated bridge for this port's segment.
Designated Bridge	Specifies the bridge identifier of the bridge which this port considers to be the designated bridge for this port's segment.
Service Access Points	
Managed by Service	Specifies the service ID of the management VPLS managing this SAP or spoke SDP.

Label	Description (Continued)
Managed by SAP/ spoke	Specifies the SAP ID or SDP ID inside the management VPLS managing this SAP or spoke SDP.
Prune state	Specifies the STP state inherited from the management VPLS.

### Sample Output

```
*A:ALA-12# show service id 11 stp
=====
Stp info, Service 11
=====
Bridge Id       : 80:00.22:68:ff:00:00:00  Top. Change Count : 1
Root Bridge    : 00:00.22:69:ff:00:00:00  Stp Oper State   : Syncing Vcp
Primary Bridge : N/A                      Topology Change  : Inactive
Mode           : Mstp                      Last Top. Change : 0d 19:12:58
Vcp Active Prot. : N/A
Root Port      : 2048                      External RPC     : 10
=====
MSTP specific info for CIST
=====
Regional Root   : This Bridge                Root Port       : 2048
Internal RPC    : 0                        Remaining Hopcount: 20
=====
Stp port info for CIST
=====
Sap/Sdp Id      Oper-   Port-   Port-   Port-   Oper-   Link-   Active
                  State  Role   State  Num    Edge   Type   Prot.
-----
1/1/1:0         Up     Root   Forward 2048   False  Pt-pt  Mstp
1/1/3:0         Up     N/A    Forward 2049   N/A    Pt-pt  N/A
1/1/4:*         Up     Designated Forward 2050   False  Pt-pt  Mstp
=====
MSTP specific info for MSTI 111
=====
Regional Root   : 80:6f.1c:65:ff:00:00:00  Root Port       : 2050
Internal RPC    : 10                        Remaining Hopcount: 19
=====
MSTP port info for MSTI 111
=====
Sap/Sdp Id      Oper-   Port-   Port-   Port-   Same
                  State  Role   State  Num    Region
-----
1/1/1:0         Up     Master Forward 2048   False
1/1/3:0         Up     N/A    Forward 2049   N/A
1/1/4:*         Up     Root   Forward 2050   True
=====
*A:ALA-12#

*A:ALA-12# show service id stp detail
=====
Spanning Tree Information
=====
VPLS Spanning Tree Information
```

## Show, Clear, Debug Commands

```
-----
VPLS oper state      : Up                Core Connectivity : Down
Stp Admin State     : Up                Stp Oper State    : Up
Mode                : Mstp              Vcp Active Prot.  : N/A
```

```
Bridge Id           : 80:00.22:68:ff:00:00:00 Bridge Instance Id: 0
Bridge Priority      : 32768              Tx Hold Count     : 6
Topology Change     : Inactive           Bridge Hello Time  : 2
Last Top. Change    : 0d 19:14:34        Bridge Max Age    : 20
Top. Change Count   : 1                  Bridge Fwd Delay  : 15
MST region revision: 0                    Bridge max hops   : 20
MST region name     : abc
```

```
Root Bridge        : 00:00.22:69:ff:00:00:00
Primary Bridge     : N/A
```

```
Root Path Cost     : 10                    Root Forward Delay: 15
Rcvd Hello Time    : 2                      Root Max Age      : 20
Root Priority       : 0                      Root Port         : 2048
```

```
MSTP info for CIST :
Regional Root      : This Bridge          Root Port         : 2048
Internal RPC       : 0                    Remaining Hopcount: 20
MSTP info for MSTI 111 :
Regional Root      : 80:6f.1c:65:ff:00:00:00 Root Port         : 2050
Internal RPC       : 10                    Remaining Hopcount: 19
```

### Spanning Tree Virtual Core Port (VCP) Specifics

```
-----
Mesh Sdp Id        Sdp          Sdp Bind      Mesh Sdp      HoldDown      Awaiting
                   Oper-state   Oper-state    Port-state    Timer         Agreement
-----
3:11                Down         Down          Discard       Inactive      N/A
4:11                Down         Down          Discard       Inactive      N/A
-----
```

### Spanning Tree Sap/Spoke SDP Specifics

```
-----
SAP Identifier     : 1/1/1:0                Stp Admin State   : Up
Port Role          : Root                Port State        : Forwarding
Port Number        : 2048                Port Priority     : 128
Port Path Cost     : 10                  Auto Edge        : Enabled
Admin Edge         : Disabled            Oper Edge        : False
Link Type          : Pt-pt               BPDU Encap       : Dot1d
Root Guard         : Disabled            Active Protocol   : Mstp
Last BPDU from    : 00:00.22:69:ff:00:00:00 Inside Mst Region : False
CIST Desig Bridge : 00:00.22:69:ff:00:00:00 Designated Port   : 34816
MSTI 111 Port Prio : 128                Port Path Cost    : 10
MSTI 111 Desig Brid: This Bridge        Designated Port   : 34816
Forward transitions: 1                    Bad BPDUs rcvd   : 0
Cfg BPDUs rcvd    : 0                    Cfg BPDUs tx     : 0
TCN BPDUs rcvd    : 0                    TCN BPDUs tx     : 0
RST BPDUs rcvd    : 0                    RST BPDUs tx     : 0
MST BPDUs rcvd    : 34638                MST BPDUs tx     : 3
```

```
-----
SAP Identifier     : 1/1/3:0                Stp Admin State   : Down
Port Role          : N/A                Port State        : Forwarding
Port Number        : 2049                Port Priority     : 128
Port Path Cost     : 10                  Auto Edge        : Enabled
Admin Edge         : Disabled            Oper Edge        : N/A
Link Type          : Pt-pt               BPDU Encap       : Dot1d
Root Guard         : Disabled            Active Protocol   : N/A
```

```

Last BPDU from      : N/A
CIST Desig Bridge  : N/A
MSTI 111 Port Prio : 128
MSTI 111 Desig Brid: N/A
Forward transitions: 1
Cfg BPDUs rcvd     : 0
TCN BPDUs rcvd     : 0
RST BPDUs rcvd     : 0
MST BPDUs rcvd     : 0

Designated Port    : 0
Port Path Cost     : 10
Designated Port    : 0
Bad BPDUs rcvd    : 0
Cfg BPDUs tx       : 0
TCN BPDUs tx      : 0
RST BPDUs tx      : 0
MST BPDUs tx      : 0

SAP Identifier      : 1/1/4:*
Port Role           : Designated
Port Number         : 2050
Port Path Cost      : 10
Admin Edge          : Disabled
Link Type           : Pt-pt
Root Guard          : Disabled
Last BPDU from     : 50:00.1c:65:ff:00:00:00
CIST Desig Bridge  : This Bridge
MSTI 111 Port Prio : 128
MSTI 111 Desig Brid: 80:6f.1c:65:ff:00:00:00
Forward transitions: 1
Cfg BPDUs rcvd     : 0
TCN BPDUs rcvd     : 0
RST BPDUs rcvd     : 0
MST BPDUs rcvd     : 34636

Stp Admin State    : Up
Port State         : Forwarding
Port Priority      : 128
Auto Edge         : Enabled
Oper Edge         : False
BPDU Encap        : Dot1d
Active Protocol   : Mstp
Inside Mst Region : True
Designated Port    : 34818
Port Path Cost     : 10
Designated Port    : 34819
Bad BPDUs rcvd    : 0
Cfg BPDUs tx       : 0
TCN BPDUs tx      : 0
RST BPDUs tx      : 0
MST BPDUs tx      : 34640
=====
*A:ALA-12#
*A:SetupCLI# show service id 2001 stp
=====
Stp info, Service 2001
=====
Bridge Id          : 80:00.70:ec:ff:00:00:00 Top. Change Count : 0
Root Bridge        : N/A Stp Oper State      : Down
Primary Bridge     : N/A Topology Change   : Inactive
Mode               : Rstp Last Top. Change  : 0d 00:00:00
Vcp Active Prot.   : N/A
Root Port          : N/A External RPC       : 0
=====
Stp port info
=====
Sap/   PIP Id   Oper-   Port-   Port-   Port-   Oper-   Link-   Active
      State   Role    State   Num    Edge   Type   Prot.
-----
Backbone VPLS      Down    N/A     Discard 2048   N/A    N/A    N/A
1/1/12:2001.2001 Down    N/A     Disabled 2049   N/A    Pt-pt N/A
=====
*A:SetupCLI#

*A:SetupCLI# show service id 2001 stp detail
=====
Spanning Tree Information
-----
VPLS Spanning Tree Information
-----
VPLS oper state    : Down Core Connectivity : Down
Stp Admin State    : Down Stp Oper State     : Down
Mode               : Rstp Vcp Active Prot.   : N/A

Bridge Id          : 80:00.70:ec:ff:00:00:00 Bridge Instance Id: 0

```

## Show, Clear, Debug Commands

```
Bridge Priority      : 32768                      Tx Hold Count      : 6
Topology Change    : Inactive                    Bridge Hello Time  : 2
Last Top. Change   : 0d 00:00:00                Bridge Max Age     : 20
Top. Change Count  : 0                          Bridge Fwd Delay   : 15
MST region revision: 0                          Bridge max hops    : 20
MST region name    :

Root Bridge        : N/A
Primary Bridge     : N/A

Root Path Cost     : 0                          Root Forward Delay: 15
Rcvd Hello Time   : 2                          Root Max Age       : 20
Root Priority      : 32768                      Root Port         : N/A
-----
Spanning Tree Sap/Spoke SDP Specifics
-----
SAP Identifier     : 1/1/12:2001.2001           Stp Admin State   : Up
Port Role         : N/A                        Port State        : Unknown
Port Number       : 2049                      Port Priority     : 128
Port Path Cost    : 10                        Auto Edge        : Enabled
Admin Edge       : Disabled                   Oper Edge        : N/A
Link Type        : Pt-pt                      BPDU Encap       : Dot1d
Root Guard       : Disabled                   Active Protocol   : N/A
Last BPDU from   : N/A
CIST Desig Bridge : N/A                      Designated Port   : N/A
Forward transitions: 0                       Bad BPDUs rcvd   : 0
Cfg BPDUs rcvd   : 0                        Cfg BPDUs tx     : 0
TCN BPDUs rcvd   : 0                        TCN BPDUs tx     : 0
RST BPDUs rcvd   : 0                        RST BPDUs tx     : 0
MST BPDUs rcvd   : 0                        MST BPDUs tx     : 0
-----
Spanning Tree PIP (Provider Internal Port) Specifics
-----
Oper Status       : Down                      mVPLS Prune State : N/A
Port Num         : 2048                      Oper Protocol     : N/A
Port Role        : N/A                      Port State        : Discarding
CIST Desig Bridge : N/A                      Designated Port   : N/A
b-Vpls STP state : Disabled
Forward transitions: 0                       Bad BPDUs rcvd   : 0
Cfg BPDUs rcvd   : 0                        Cfg BPDUs tx     : 0
TCN BPDUs rcvd   : 0                        TCN BPDUs tx     : 0
RST BPDUs rcvd   : 0                        RST BPDUs tx     : 0
MST BPDUs rcvd   : 0                        MST BPDUs tx     : 0
=====
*A:SetupCLI#
```

## subscriber-hosts

- Syntax** **subscriber-hosts** [**sap** *sap-id*] [**ip** *ip-address[/mask]*] [**mac** *ieee-address*] [**sub-profile** *sub-profile-name*] [**sla-profile** *sla-profile-name*] [**detail**]
- Context** show>service>id
- Description** This command displays subscriber host information.
- Parameters** **sap** *sap-id* — Displays the specified subscriber host SAP information. See [Common CLI Command Descriptions on page 1271](#) for command syntax.

*ip-address/mask* — The IP address of the IP interface. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation.

**Values** Allowed values are IP addresses in the range 1.0.0.0 — 223.255.255.255 (with support of /31 subnets).  
mask: 1 — 32

**mac *ieee-address*** — Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

**sub-profile *sub-profile-name*** — Specifies an existing subscriber profile name to be associated with the static subscriber host. The subscriber profile is configured in the **config>subscr-mgmt>sub-profile** context.

**sla-profile *sla-profile-name*** — Specifies an existing SLA profile name to be associated with the static subscriber host. The SLA profile is configured in the **config>subscr-mgmt>sla-profile** context.

**detail** — Displays detailed information.

### Sample Output

```
A:ALA#-SR12# show service id 20 subscriber-hosts
=====
Subscriber Host table
=====
Sap Id                IP Address           MAC Address          Origin(*) Subscriber
-----
1/2/6:0              101.1.1.10          00:bb:bb:00:00:00  S/-/-
    Eval-20-static
-----
Number of subscriber hosts : 1
=====
(*) S=Static Host, D=DHCP Lease, N=Non-Sub-Traffic
A:ALA#

A:ALA# show service id 10 subscriber-hosts
=====
Subscriber Host table
=====
Sap Id                IP Address           MAC Address          Origin(*) Subscriber
-----
1/2/5:0              100.1.1.10          00:aa:aa:00:00:01  -/D/-
    SUB-10-00aaaa000001
-----
Number of subscriber hosts : 1
=====
(*) S=Static Host, D=DHCP Lease, N=Non-Sub-Traffic
A:ALA-SR12#
```

## statistics

- Syntax** `statistics [policy name] [sap sap-id]`
- Context** `show>service>id>authentication`
- Description** This command displays session authentication statistics for this service.
- Parameters** `sap sap-id` — Specifies the physical port identifier portion of the SAP definition. See [Common CLI Command Descriptions on page 1271](#) for command syntax.

### Sample Output

```
*A:ALA-1# show service id 11 authentication statistics
=====
Authentication statistics
=====
Interface / SAP                Authentication Successful  Authentication Failed
-----
vpls-11-90.1.0.254            1582                      3
-----
Number of entries: 1
=====
*A:ALA-1#
```



---

## IGMP Snooping Show Commands

### igmp-snooping

<b>Syntax</b>	<b>igmp-snooping</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command enables the context to display IGMP snooping information.

### all

<b>Syntax</b>	<b>all</b>
<b>Context</b>	show>service>id>igmp-snooping
<b>Description</b>	This command displays detailed information for all aspects of IGMP snooping on the VPLS service.
<b>Output</b>	<b>Show All Service-ID</b> — The following table describes the show all service-id command output fields:

Label	Description
Admin State	The administrative state of the IGMP instance.
Querier	Displays the address of the IGMP querier on the IP subnet to which the interface is attached.
Sap Id	Displays the SAP IDs of the service ID.
Oper State	Displays the operational state of the SAP IDs of the service ID.
Mrtr Port	Specifies if the port is a multicast router port.
Send Queries	Specifies whether the send-queries command is enabled or disabled.
Max Num Groups	Specifies the maximum number of multicast groups that can be joined on this SAP.
MVR From VPLS	Specifies MVR from VPLS.
Num Groups	Specifies the actual number of multicast groups that can be joined on this SAP.

#### Sample Output

```
A:ALA-48>show>service>id>igmp-snooping>snooping# all
=====
IGMP Snooping info for service 750
```

## Show, Clear, Debug Commands

```

=====
IGMP Snooping Base info
-----
Admin State : Up
Querier      : No querier found
-----
Sap/Sdp      Oper      MRtr  Send      Max Num   Num
Id           State     Port  Queries   Groups    Groups
-----
sap:1/1/7:0  Down     No    Disabled  No Limit  0
sdp:1:22     Down     No    Disabled  No Limit  0
sdp:8:750    Down     No    Disabled  No Limit  0
-----
IGMP Snooping Querier info
-----
No querier found for this service.
-----
IGMP Snooping Multicast Routers
-----
MRouter      Sap/Sdp Id      Up Time      Expires      Version
-----
Number of mrouter: 0
-----
IGMP Snooping Proxy-reporting DB
-----
Group Address  Mode      Type      Up Time      Expires      Num Src
-----
Number of groups: 0
-----
IGMP Snooping SAP 1/1/7:0 Port-DB
-----
Group Address  Mode      Type      Up Time      Expires      Num Src
-----
Number of groups: 0
-----
IGMP Snooping SDP 1:22 Port-DB
-----
Group Address  Mode      Type      Up Time      Expires      Num Src
-----
Number of groups: 0
-----
IGMP Snooping SDP 8:750 Port-DB
-----
Group Address  Mode      Type      Up Time      Expires      Num Src
-----
Number of groups: 0
-----
IGMP Snooping Static Source Groups
-----
IGMP Snooping Statistics
-----
Message Type      Received      Transmitted      Forwarded
-----
General Queries   0             0                 0
Group Queries     0             0                 0
Group-Source Queries 0             0                 0
V1 Reports        0             0                 0
V2 Reports        0             0                 0
V3 Reports        0             0                 0
V2 Leaves         0             0                 0
Unknown Type      0             N/A                0

```

-----  
Drop Statistics  
-----

Bad Length	: 0
Bad IP Checksum	: 0
Bad IGMP Checksum	: 0
Bad Encoding	: 0
No Router Alert	: 0
Zero Source IP	: 0

Send Query Cfg Drops	: 0
Import Policy Drops	: 0
Exceeded Max Num Groups	: 0

=====

A:ALA-48&gt;show&gt;service&gt;id&gt;snooping#

mfib

- Syntax**     **mfib [brief | statistics] [ip | mac] brief**  
**mfib [group grp-address | \* ] [statistics]**
- Context**     show>service>id
- Description** This command displays the multicast FIB on the VPLS service.
- Parameters**
  - brief** — Displays a brief output.
  - statistics** — Displays statistics on the multicast FIB.
  - ip** — Displays IP address information.
  - mac** — Displays MAC address information.
  - group grp grp-address** — Displays the multicast FIB for a specific multicast group address.
- Output**     **Show Output** — The following table describes the command output fields:

Label	Description
Source Address	IPv4 unicast source address.
Group Address	IPv4 multicast group address.
SAP ID	Indicates the SAP/SDP to which the corresponding multicast stream will be forwarded/blocked.
Forwarding/Blocking	Indicates whether the corresponding multicast stream will be blocked/forwarded.
Number of Entries	Specifies the number of entries in the MFIB.
Forwarded Packets	Indicates the number of multicast packets forwarded for the corresponding source/group.
Forwarded Octets	Indicates the number of octets forwarded for the corresponding source/group.
Svc ID	Indicates the service to which the corresponding multicast stream will be forwarded/blocked. Local means that the multicast stream will be forwarded/blocked to a SAP or SDP local to the service.

**Sample Output**

```
*A:ALA-SR12-D# show service id 10 mfib statistics
=====
IGMP Snooping MFIB for service 10
=====
Source Address  Group Address  Fwd Pkts          Fwd Octets
-----
1.1.1.1         225.0.0.1     291               9281
1.1.1.2         225.0.0.1     0                  0
-----
```

```

Number of entries: 2
=====
*A:ALA-SR12-D#

*A:PE-A# show service id 10 mfib
=====
Multicast FIB, Service 10
=====
Source Address  Group Address      Sap/Sdp Id          Svc Id  Fwd/Blk
-----
*              01:1E:83:00:00:65  sap:2/2/5:10       Local   Fwd
*              01:1E:83:00:00:66  sap:2/2/5:10       Local   Fwd
*              01:1E:83:00:00:67  sap:2/2/5:10       Local   Fwd
*              01:1E:83:00:00:68  sap:2/2/5:10       Local   Fwd
*              01:1E:83:00:00:69  sap:2/2/5:10       Local   Fwd
*              01:1E:83:00:00:6A  sap:2/2/5:10       Local   Fwd
*              01:1E:83:00:00:6B  sap:2/2/5:10       Local   Fwd
*              01:1E:83:00:00:6C  sap:2/2/5:10       Local   Fwd
*              01:1E:83:00:00:6D  sap:2/2/5:10       Local   Fwd
*              01:1E:83:00:00:6E  sap:2/2/5:10       Local   Fwd
-----
Number of entries: 10
=====
*A:PE-A#

```

To show which I-SIDs are local, the MFIB command will display ISIDs that are local and advertised. Static I-SIDs are included in this display. However, I-SID policy can override the I-SIDS that are designated to use the default multicast tree and these do not show up in the mfib. This is displayed on a B-VPLS control service.

```

*A:cses-B0102>show>service>id# mfib
=====
Multicast FIB, Service 510
=====
Source Address  Group Address      Sap/Sdp Id          Svc Id  Fwd/Blk
-----
*              01:1E:83:00:01:F4  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:F5  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:F6  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:F7  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:F8  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:F9  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:FA  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:FB  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:FC  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:FD  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:FE  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:01:FF  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:02:00  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:02:01  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:02:02  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:02:03  b-sap:1/1/22:510   Local   Fwd
*              01:1E:83:00:02:04  b-sap:1/1/22:510   Local   Fwd
-----
Number of entries: 21
=====

```

## Show, Clear, Debug Commands

To show the I-SID policy under a B-VPLS, the I-SID policy is used.

```
*A:cses-B07>show>service>id# isid-policy
```

```
=====
Isid Policy Range
=====
Entry      Range                AdvLocal  UseDefMCTree
-----
2          1500-1600            Disabled  Enabled
=====
```

The following example shows the MFIB for an EVPN-VXLAN service.

```
*A:PE1# show service id 1 mfib
```

```
=====
Multicast FIB, Service 1
=====
Source Address  Group Address          Sap/Sdp Id              Svc Id  Fwd/Blk
-----
*               *                       sap:1/1/1:1             Local   Fwd
*               232.0.0.1              sap:1/1/1:1             Local   Fwd
                10.0.0.232             vxlan:192.0.2.72/1     Local   Fwd
10.0.0.232     232.0.0.2              sap:1/1/1:1             Local   Fwd
                10.0.0.232             vxlan:192.0.2.72/1     Local   Fwd
-----
Number of entries: 3
=====
```

## mrollers

- Syntax** **mrollers [detail]**
- Context** **show>service>id>igmp-snooping**
- Description** This command displays all multicast routers.
- Parameters** **detail** — Displays detailed information.

### Sample Output

```
*A:ala-427# show service id 1 igmp-snooping mrollers
```

```
=====
IGMP Snooping Multicast Routers for service 1
=====
MRouter          Sap/Sdp Id           Up Time           Expires           Version
-----
10.10.1.1         1/1/5:1              0d 00:00:26      14s               3
10.20.1.6         1/1/2:1              0d 00:10:16      2s                3
-----
Number of mrollers: 2
=====
```

```
*A:ala-427#
```

```
*A:ala-427# show service id 1 igmp-snooping mrollers detail
```

```
=====
IGMP Snooping Multicast Routers for service 1
=====
```

```

=====
MRouter 10.10.1.1
-----
Sap Id           : 1/1/5:1
Expires          : 17s
Up Time          : 0d 00:00:32
Version          : 3

General Query Interval : 10s
Query Response Interval : 1.0s
Robust Count          : 2
-----
MRouter 10.20.1.6
-----
Sap Id           : 1/1/2:1
Expires          : 3s
Up Time          : 0d 00:10:22
Version          : 3

General Query Interval : 2s
Query Response Interval : 1.0s
Robust Count          : 2
-----
Number of mrouters: 2
=====
*A:ala-427#

```

## mvr

- Syntax** mvr
- Context** show>service>id>igmp-snooping
- Description** This command displays Multicast VPLS Registration (MVR) information.
- Output** **Show All Service-ID** — The following table describes the show all service-id command output fields:

Label	Description
MVR Admin State	Administrative state.
MVR Policy	Policy name.
Svc ID	The service identifier.
Sap/Sdp Id	Displays the SAP and SDP IDs of the service ID.
Oper State	Displays the operational state of the SAP and SDP IDs of the svcid.
Mrtr Port	Specifies if the port is a multicast router port.
From VPLS	Specifies from which VPLS the multicast streams corresponding to the groups learned via this SAP will be copied. If local, it is from its own VPLS.
Num Groups	Specifies the number of groups learned via this local SAP.

**Sample Output**

```
*A:ALA-1>show>service>id>snooping# mvr
=====
IGMP Snooping Multicast VPLS Registration info for service 10
=====
IGMP Snooping Admin State : Up
MVR Admin State           : Up
MVR Policy                 : mvr-policy
-----
Local SAPs/SDPs
-----
Svc Id      Sap/Sdp          Oper      From      Num Local
           Id              State     VPLS      Groups
-----
100         sap:1/1/10:10      Up        Local     100
100         sap:1/1/10:20      Up        Local     100
-----
MVR SAPs (from-vpls=10)
-----
Svc Id      Sap/Sdp          Oper      From      Num MVR
           Id              State     VPLS      Groups
-----
20          sap:1/1/4:100     Up        10        100
30          sap:1/1/31:10.10  Up        10        100
-----
*A:ALA-1>show>service>id>snooping#
```

port-db

**Syntax** **port-db sap** *sap-id* [**detail**]  
**port-db sap** *sap-id* **group** *grp-address*  
**port-db sdp** *sdp-id:vc-id* [**detail**]  
**port-db sdp** *sdp-id:vc-id* **group** *grp-address*  
**vxlan vtep** *ip-address vni vni*

**Context** show>service>id>igmp-snooping

**Description** This command displays information on the IGMP snooping port database for the VPLS service.

**Parameters** **group** *grp-ip-address* — Displays the IGMP snooping port database for a specific multicast group address.

**sap** *sap-id* — Displays the IGMP snooping port database for a specific SAP. See [Common CLI Command Descriptions on page 1271](#) for command syntax.

**sdp** *sdp-id* — Displays only IGMP snooping entries associated with the specified mesh SDP or spoke SDP. For a spoke SDP, the VC ID must be specified, for a mesh SDP, the VC ID is optional.

**Values** 1 — 17407

*vc-id* — The virtual circuit ID on the SDP ID for which to display information.

**Default** For mesh SDPs only, all VC IDs.

**Values** 1 — 4294967295



**group** *grp-address* — Displays IGMP snooping statistics matching the specified group address.

**source** *ip-address* — Displays IGMP snooping statistics matching one particular source within the multicast group.

**vxlan vtep** *ip-address vni* <1..16777215> — Displays the IGMP snooping entries associated with a specific VXLAN binding, given by the VXLAN Termination Endpoint (VTEP) and VXLAN Network Identifier (VNI).

**vni** *vni* — The VXLAN Network Identifier (VNI) for which to display information.

**Values** 1 — 16777215

**Output** **Show Output** — The following table describes the show output fields:

Label	Description
Group Address	The IP multicast group address for which this entry contains information.
Mode	Specifies the type of membership report(s) received on the interface for the group. In the include mode, reception of packets sent to the specified multicast address is requested only from those IP source addresses listed in the source-list parameter of the IGMP membership report. In exclude' mode, reception of packets sent to the given multicast address is requested from all IP source addresses except those listed in the source-list parameter.
Type	Indicates how this group entry was learned. If this group entry was learned by IGMP, the value is set to dynamic. For statically configured groups, the value is set to static.
Compatibility mode	Specifies the IGMP mode. This is used in order for routers to be compatible with older version routers. IGMPv3 hosts must operate in Version 1 and Version 2 compatibility modes. IGMPv3 hosts must keep state per local interface regarding the compatibility mode of each attached network. A host's compatibility mode is determined from the host compatibility mode variable which can be in one of three states: IGMPv1, IGMPv2 or IGMPv3. This variable is kept per interface and is dependent on the version of general queries heard on that interface as well as the older version querier present timers for the interface.
Vl host expires	The time remaining until the local router will assume that there are no longer any IGMP Version 1 members on the IP subnet attached to this interface. Upon hearing any IGMPv1 membership report, this value is reset to the group membership timer. While this time remaining is non-zero, the local router ignores any IGMPv2 leave messages for this group that it receives on this interface.

Label	Description
V2 host expires	The time remaining until the local router will assume that there are no longer any IGMP Version 2 members on the IP subnet attached to this interface. Upon hearing any IGMPv2 membership report, this value is reset to the group membership timer. While this time remaining is non-zero, the local router ignores any IGMPv3 leave messages for this group that it receives on this interface.
Source address	The source address for which this entry contains information.
Up Time	The time since the source group entry was created.
Expires	The amount of time remaining before this entry will be aged out.
Number of sources	Indicates the number of IGMP group and source specific queries received on this SAP.
Forwarding/Blocking	Indicates whether this entry is on the forward list or block list.
Number of groups	Indicates the number of groups configured for this SAP.

**Sample Output**

```
*A:ALA-1>show>service>id>snooping# port-db sap 1/1/2
=====
IGMP Snooping SAP 1/1/2 Port-DB for service 10
=====
Group Address      Mode      Type      Up Time      Expires      Num Sources
-----
225.0.0.1          include  dynamic  0d 00:04:44  0s           2
=====
*A:ALA-1>show>service>id>snooping#
```

proxy-db

- Syntax** `proxy-db [detail]`  
`proxy-db group grp-address`
- Context** `show>service>id>igmp-snooping`
- Description** This command displays information on the IGMP snooping proxy reporting database for the VPLS service.
- Parameters** `group grp-ip-address` — Displays the IGMP snooping proxy reporting database for a specific multicast group address.
- Output** **Show Output** — The following table describes the show output fields:

Label	Description
Group Address	The IP multicast group address for which this entry contains information.
Mode	Specifies the type of membership report(s) received on the interface for the group. In the include mode, reception of packets sent to the specified multicast address is requested only from those IP source addresses listed in the source-list parameter of the IGMP membership report.  In the “exclude” mode, reception of packets sent to the given multicast address is requested from all IP source addresses except those listed in the source-list parameter.
Up Time	The total operational time in seconds.
Num Sources	Indicates the number of IGMP group and source specific queries received on this interface.
Number of groups	Number of IGMP groups.
Source Address	The source address for which this entry contains information.

### Sample Output

```
*A:ALA-1>show>service>id>snooping# proxy-db
=====
IGMP Snooping Proxy-reporting DB for service 10
=====
Group Address      Mode      Up Time      Num Sources
-----
225.0.0.1         include   0d 00:05:40    2
-----
Number of groups: 1
=====
*A:ALA-1>show>service>id>snooping#

*A:ALA-1>show>service>id>snooping# proxy-db detail
=====
IGMP Snooping Proxy-reporting DB for service 10
-----
IGMP Group 225.0.0.1
-----
Up Time : 0d 00:05:54                Mode : include
-----
Source Address  Up Time
-----
1.1.1.1        0d 00:05:54
1.1.1.2        0d 00:05:54
-----
Number of groups: 1
=====
*A:ALA-1>show>service>id>snooping#
```

## querier

- Syntax**     **querier**
- Context**    show>service>id>igmp-snooping
- Description** This command displays information on the IGMP snooping queriers for the VPLS service.
- Output**     **Show Output** — The following table describes the show output fields:

Label	Description
SAP Id	Specifies the SAP ID of the service.
IP address	Specifies the IP address of the querier.
Expires	The time left, in seconds, that the query will expire.
Up time	The length of time the query has been enabled.
Version	The configured version of IGMP.
General Query Interval	The frequency at which host-query packets are transmitted.
Query Response Interval	The time to wait to receive a response to the host-query message from the host.
Robust Count	Specifies the value used to calculate several IGMP message intervals.

### Sample Output

```
*A:ALA-1>show>service>id>snooping# querier
=====
IGMP Snooping Querier info for service 10
=====
Sap Id           : 1/1/1
IP Address       : 10.10.10.1
Expires         : 6s
Up Time         : 0d 00:56:50
Version         : 3

General Query Interval : 5s
Query Response Interval : 2.0s
Robust Count         : 2
=====
*A:ALA-1>show>service>id>snooping#
```

## static

- Syntax** `static [sap sap-id | sdp sdp-id:vc-id]`
- Context** `show>service>id>igmp-snooping`
- Description** This command displays information on static IGMP snooping source groups for the VPLS service.
- Parameters**
- sap sap-id** — Displays static IGMP snooping source groups for a specific SAP. See [Common CLI Command Descriptions on page 1271](#) for command syntax.
  - sdp sdp-id** — Displays the IGMP snooping source groups for a specific spoke or mesh SDP.
    - Values** 1 — 17407
  - vc-id** — The virtual circuit ID on the SDP ID for which to display information.
    - Default** For mesh SDPs only, all VC IDs.
    - Values** 1 — 4294967295
- Output** **Show Output** — The following table describes the show output fields:

Label	Description
Source	Displays the IP source address used in IGMP queries.
Group	Displays the static IGMP snooping source groups for a specified SAP.

**Sample Output**

```
*A:ALA-1>show>service>id>snooping# static
=====
IGMP Snooping Static Source Groups for SAP 1/1/2
-----
Source          Group
-----
*                225.0.0.2
*                225.0.0.3
-----
Static (*,G)/(S,G) entries: 2
-----
IGMP Snooping Static Source Groups for SDP 10:10
-----
Source          Group
-----
1.1.1.1         225.0.0.10
-----
Static (*,G)/(S,G) entries: 1
=====
*A:ALA-1>show>service>id>snooping#
```

## statistics

**Syntax** `statistics [sap sap-id | sdp sdp-id:vc-id | vxlan vtep ip-address vni vni]`

**Context** `show>service>id>igmp-snooping`

**Description** This command displays IGMP snooping statistics for the VPLS service.

**Parameters** `sap sap-id` — Displays IGMP snooping statistics for a specific SAP. See [Common CLI Command Descriptions on page 1271](#) for command syntax.

`sdp sdp-id` — Displays the IGMP snooping statistics for a specific spoke or mesh SDP.

**Values** 1 — 17407

`vc-id` — The virtual circuit ID on the SDP ID for which to display information.

**Default** For mesh SDPs only, all VC IDs.

**Values** 1 — 4294967295

`vxlan vtep ip-address vni <1..16777215>` — Displays the IGMP snooping entries associated with a specific VXLAN binding, given by the VXLAN Termination Endpoint (VTEP) and VXLAN Network Identifier (VNI).

`vni vni` — The VXLAN Network Identifier (VNI) for which to display information.

**Values** 1 — 16777215

### Sample Output

```
*A:ALA-1>show>service>id>snooping# statistics
=====
IGMP Snooping Statistics for service 1
=====
Message Type           Received      Transmitted   Forwarded
-----
General Queries        4             0             4
Group Queries          0             0             0
Group-Source Queries   0             0             0
V1 Reports             0             0             0
V2 Reports             0             0             0
V3 Reports             0             0             0
V2 Leaves             0             0             0
Unknown Type          0             N/A           0
-----
Drop Statistics
-----
Bad Length             : 0
Bad IP Checksum        : 0
Bad IGMP Checksum      : 0
Bad Encoding           : 0
No Router Alert        : 0
Zero Source IP         : 0

Send Query Cfg Drops   : 0
Import Policy Drops    : 0
Exceeded Max Num Groups : 0

MVR From VPLS Cfg Drops : 0
```

```
MVR To SAP Cfg Drops      : 0
=====
*A:ALA-1>show>service>id>snooping#
```

## egress-replication

<b>Syntax</b>	<b>egress-replication</b>
<b>Context</b>	show
<b>Description</b>	This command enables the context to display egress flooding information for a VPLS service context on a given MDA. A VPLS service context supports both Layer 2 and Layer 3 flooding modes. The Layer 2 flooding mode is used for broadcast, Layer 2 multicast and unknown destination MAC addressed packets. All available interfaces (SAP, spoke SDP and mesh-SDP) that reside on an egress forwarding complex are included in the egress list except for SAPs that are defined in a residential split horizon group (Layer 2 flooding is not permitted on residential SAPs). The Layer 3 flooding mode is used for VPLS interfaces participating in IGMP snooping and is represented by an IP multicast [s,g] record.

## vpls

<b>Syntax</b>	<b>vpls vpls-service-id mda card/slot</b> <b>vpls vpls-service-id mda card/slot [igmp-record group ip-address {source ip-address   starg}]</b>
<b>Context</b>	show>egress-replication
<b>Description</b>	<p>The <b>vpls vpls-service-id mda slot/mda</b> command displays the flooding list used by the Layer 2 flooding mode for the VPLS service on the specified MDA. The Layer 2 flooding list is limited to SAPs, spoke SDP and mesh-SDP bindings that exist on the egress forwarding complex serviced by the specified MDA. For the 10G IOM, two MDAs share the same egress forwarding plane. In this case the Layer 2 flooding list will contain destinations for both MDAs (if entries exist). . The only VPLS interfaces that will not be included in the list are residential SAPs because Layer 2 replication is not permitted to a residential SAP. A packet processed by the egress Layer 2 flooding list may not be replicated to each destination. A packet will not be replicated to an interface on the Layer 2 flooding list because of the following:</p> <p>The ingress interface is the same as egress interface (source squelching rule)</p> <ul style="list-style-type: none"> <li>• The ingress interface split horizon group is the same as the egress interface (residential bridging rule).</li> <li>• The egress interface is down or blocking.</li> <li>• The packet matches a discard event while processing that destination interface.</li> <li>• An egress MTU violation occurs for the destination interface.</li> </ul> <p>Destination SAPs in the list may be displayed in a chain context representing common replication behavior. All SAPs in a single chain are processed a single time through the egress forwarding plane. If a discard decision is made for the first SAP in the chain, no replication processing is done for any of the chain members. If the forwarding plane decides to replicate the first SAP in the chain, it will replicate to all SAPs in the chain.</p>

The **vpls vpls-service-id mda card/slot igmp-record grp-address {source source-ip-address | starg}** command displays the IGMP record based flooding list for the *vpls-service-id* on the specified MDA. Unlike the Layer 2 flooding list for the VPLS context, an IGMP record list may contain interfaces from other VPLS contexts due to MVR (Multicast VPLS Registration) events on the individual VPLS interfaces. VPLS interfaces in other VPLS contexts become associated with the specified *vpls-service-id* based on the MVR from-vpls definition. Another difference between the VPLS Layer 2 flooding list and IGMP lists is that many IGMP lists may exist (each associated with a different [s,g] record) and the lists may contain residential SAPs. The SAP chaining and replication behavior is similar to the VPLS Layer 2 flooding list.

IP multicast packets ingressing the *vpls-service-id* must match either a [\*g] or [s,g] record to be associated with the record's egress IP multicast IGMP flooding list. A [\*g] record will match any ingress IP multicast packet destined to the class D destination IP address represented by "g". An [s,g] record will match any ingress IP multicast packet with a source IP address matching "s" and a destination IP address matching "g". In the case that a packet could match both a [\*g] and [s,g] record, the [s,g] record takes precedence. Each [\*g] and [s,g] record has its own IGMP flooding list. The list will only appear on an egress forwarding plane (MDA) when a member of the list (VPLS interface) exists on the forwarding plane.

**Parameters**

*service-id* — Displays information about the specified service ID or service name.

**Values**      *service-id*: 1 — 214748364  
                   *svc-name*: A string up to 64 characters in length.

*slot/mda* — Specifies a chassis and MDA slot.

*grp-ip-address* — Specifies a multicast group address.

*src-ip-address* — Specifies a source IP address.

**starg** — Specifies a (\*, G) record.

**mRouter** — Specifies the (\*,\*) record

**ipv6** — Displays IPv6 information.

*grp-ipv6-address* — ipv6-address - x:x:x:x:x:x:x (eight 16-bit pieces)  
                           x:x:x:x:x:x:d.d.d.d  
                           x - [0..FFFF]H  
                           d - [0..255]D  
                           multicast group IPv6 address

*src-ipv6-address* — ipv6-address - x:x:x:x:x:x:x (eight 16-bit pieces)  
                           x:x:x:x:x:x:d.d.d.d  
                           x - [0..FFFF]H  
                           d - [0..255]D



# IGMP Commands

## group

<b>Syntax</b>	<b>group</b> [ <i>grp-ip-address</i> ]
<b>Context</b>	show>router>igmp
<b>Description</b>	This command displays the multicast group and (s, g) addresses. If no <i>grp-ip-address</i> parameters are specified then all IGMP group, (*, g) and (s, g) addresses are displayed.
<b>Parameters</b>	<i>grp-ip-address</i> — Displays specific multicast group addresses.
<b>Output</b>	<b>IGMP Group Output</b> — The following table describes the output fields for IGMP group information.

Label	Description
IGMP Groups	Displays the IP multicast sources corresponding to the IP multicast groups which are statically configured.
Fwd List	Displays the list of interfaces in the forward list.
Blk List	Displays the list of interfaces in the block list.

### Sample Output

```
A:NYC# show router igmp group
=====
IGMP Groups
=====
(*,224.24.24.24)                               Up Time : 0d 05:21:38
  Fwd List   : nyc-vlc

(*,239.255.255.250)                           Up Time : 0d 05:21:38
  Fwd List   : nyc-vlc
-----
(*,G)/(S,G) Entries : 2
=====
A:NYC#

A:NYC# show router igmp group 224.24.24.24
=====
IGMP Groups
=====
(*,224.24.24.24)                               Up Time : 0d 05:23:23
  Fwd List   : nyc-vlc
-----
(*,G)/(S,G) Entries : 1
=====
A:NYC#
```

## ssm-translate

- Syntax** `ssm-translate`
- Context** `show>router>igmp`
- Description** This command displays IGMP SSM translate configuration information.
- Output** **GMP Interface Output** — The following table provides IGMP field descriptions

Label	Description
Group Range	Displays the address ranges of the multicast groups for which this router can be an RP.
Source	Displays the unicast address that sends data on an interface.
SSM Translate Entries	Displays the total number of SSM translate entries.

```
A:ALA-48>config>router>igmp# show router igmp ssm-translate
=====
IGMP SSM Translate Entries
=====
Group Range                               Source
-----
<224.0.1.0 - 224.0.1.255>                 1.1.1.1
<225.1.0.0 - 225.240.3.57>                 2.2.2.2
<239.255.255.0 - 239.255.255.255>         3.3.3.3
-----
SSM Translate Entries : 3
=====
A:ALA-48>config>router>igmp#
```

## interface

- Syntax** `interface [ip-int-name | ip-address] [group] [grp-address] [detail]`
- Context** `show>router>igmp`
- Description** This command displays IGMP interface information.
- Parameters**
  - ip-int-name* — Only displays the information associated with the specified IP interface name.
  - ip-address* — Only displays the information associated with the specified IP address.
  - group** *grp-address* — Only displays IP multicast group address for which this entry contains information.
  - detail** — Displays detailed IP interface information along with the source group information learned on that interface.
- Output** **IGMP Interface Output** — The following table provides IGMP field descriptions.

Label	Description
Interface	Specifies the interfaces that participates in the IGMP protocol.
Adm Admin Status	Displays the administrative state for the IGMP protocol on this interface.
Oper Oper Status	Displays the current operational state of IGMP protocol on the interface.
Querier	Displays the address of the IGMP querier on the IP subnet to which the interface is attached.
Querier Up Time	Displays the time since the querier was last elected as querier.
Querier Expiry Timer	Displays the time remaining before the querier ages out. If the querier is the local interface address, the value will be zero.
Cfg/Opr Version Admin/Oper version	<code>cfg</code> – The configured version of IGMP running on this interface. For IGMP to function correctly, all routers on a LAN must be configured to run the same version of IGMP on that LAN. <code>opr</code> . The operational version of IGMP running on this interface. If the <code>cfg</code> value is 3 but all of the routers in the local subnet of this interface use IGMP version v1 or v2, the operational version will be v1 or v2.
Num Groups	The number of multicast groups which have been learned by the router on the interface.
Policy	Specifies the policy that is to be applied on the interface.
Group Address	Specifies the IP multicast group address for which this entry contains information.
Up Time	Specifies the time since this source group entry got created.
Last Reporter	Specifies the IP address of the source of the last membership report received for this IP Multicast group address on this interface. If no membership report has been received, this object has the value 0.0.0.0.
Mode	The mode is based on the type of membership report(s) received on the interface for the group. In the 'include' mode, reception of packets sent to the specified multicast address is requested only from those IP source addresses listed in the source-list parameter of the IGMP membership report. In 'exclude' mode, reception of packets sent to the given multicast address is requested from all IP source addresses except those listed in the source-list parameter.
V1 Host Timer	The time remaining until the local router will assume that there are no longer any IGMP version 1 members on the IP subnet attached to this interface. Upon hearing any IGMPv1 Membership Report, this value is reset to the group membership timer. While this time remaining is non-zero, the local router ignores any IGMPv2 Leave messages for this group that it receives on this interface.

Label	Description (Continued)
V2 Host Timer	The time remaining until the local router will assume that there are no longer any IGMP version 2 members on the IP subnet attached to this interface. Upon hearing any IGMPv2 Membership Report, this value is reset to the group membership timer. While this time remaining is non-zero, the local router ignores any IGMPv3 Leave messages for this group that it receives on this interface.
Type	Indicates how this group entry was learned. If this group entry was learned by IGMP, it will be set to 'dynamic'. For statically configured groups, the value will be set to 'static'.
Compat Mode	Used in order for routers to be compatible with older version routers. IGMPv3 hosts MUST operate in version 1 and version 2 compatibility modes. IGMPv3 hosts MUST keep state per local interface regarding the compatibility mode of each attached network. A host's compatibility mode is determined from the Host Compatibility Mode variable which can be in one of three states: IGMPv1, IGMPv2 or IGMPv3. This variable is kept per interface and is dependent on the version of General Queries heard on that interface as well as the Older Version Querier Present timers for the interface.

**Sample Output**

```
A:BA# show router igmp interface
=====
IGMP Interfaces
=====
Interface                Adm  Oper  Querier          Cfg/Opr Num  Policy
                        Version Groups
-----
IGMP_to_CE                Up   Up    11.1.1.1         1/1    3    igmppol
-----
Interfaces : 1
=====
A:BA#

A:BA# show router 100 igmp interface IGMP_to_CE
=====
IGMP Interface IGMP_to_CE
=====
Interface                Adm  Oper  Querier          Cfg/Opr Num  Policy
                        Version Groups
-----
IGMP_to_CE                Up   Up    11.1.1.1         1/1    3    igmppol
-----
Interfaces : 1
=====
A:BA#

A:BA# show router 100 igmp interface 11.1.1.1
=====
IGMP Interface 11.1.1.1
=====
```

```

Interface                Adm  Oper  Querier          Cfg/Opr Num  Policy
                        Version Groups
-----
IGMP_to_CE              Up   Up    11.1.1.1         1/1    3    igmppol
-----

```

Interfaces : 1

A:BA#

A:BA# show router 100 igmp interface IGMP\_to\_CE group 227.1.1.1

```

=====
IGMP Interface IGMP_to_CE
=====
Interface                Adm  Oper  Querier          Cfg/Opr Num  Policy
                        Version Groups
-----
IGMP_to_CE              Up   Up    11.1.1.1         1/1    3    igmppol
-----

```

IGMP Group

```

-----
Group Address : 227.1.1.1          Up Time       : 0d 00:03:52
Interface     : IGMP_to_CE         Expires       : never
Last Reporter : 0.0.0.0            Mode          : exclude
V1 Host Timer : Not running        Type          : static
V2 Host Timer : Not running        Compat Mode   : IGMP Version 3
-----

```

Interfaces : 1

A:BA# show router 100 igmp interface IGMP\_to\_CE group 227.1.1.1 detail

```

=====
IGMP Interface IGMP_to_CE
=====
Interface      : IGMP_to_CE
Admin Status   : Up                Oper Status    : Up
Querier        : 11.1.1.1        Querier Up Time : 0d 00:04:01
Querier Expiry Time: N/A        Time for next query: 0d 00:13:42
Admin/Oper version : 1/1        Num Groups     : 3
Policy         : igmppol        Subnet Check    : Disabled
Max Groups Allowed : 16000      Max Groups Till Now: 3
MCAC Policy Name :                MCAC Const Adm St : Enable
MCAC Max Unconst BW: no limit    MCAC Max Mand BW  : no limit
MCAC In use Mand BW: 0           MCAC Avail Mand BW : unlimited
MCAC In use Opnl BW: 0          MCAC Avail Opnl BW : unlimited
-----

```

IGMP Group

```

-----
Group Address : 227.1.1.1          Up Time       : 0d 00:04:02
Interface     : IGMP_to_CE         Expires       : never
Last Reporter : 0.0.0.0            Mode          : exclude
V1 Host Timer : Not running        Type          : static
V2 Host Timer : Not running        Compat Mode   : IGMP Version 3
-----

```

Interfaces : 1

A:BA#

## static

- Syntax**     **static** [*ip-int-name* | *ip-addr*]
- Context**     show>router>igmp
- Description** This command displays static IGMP, (\*, g) (s, g) information.
- Parameters** *ip-int-name* — Only displays the information associated with the specified IP interface name.  
*ip-addr* — Only displays the information associated with the specified IP address.
- Output**     **Static IGMP Output** — The following table provides static IGMP field descriptions

Label	Description
Source	Displays entries which represents a source address from which receivers are interested/not interested in receiving multicast traffic.
Group	Displays the IP multicast group address for which this entry contains information.
Interface	Displays the interface name.

### Sample Output

```
A:BA# show router 100 igmp static
=====
IGMP Static Group Source
=====
Source          Group          Interface
-----
11.11.11.11     226.136.22.3  IGMP_to_CE
*               227.1.1.1     IGMP_to_CE
22.22.22.22     239.255.255.255 IGMP_to_CE
-----
Static (*,G)/(S,G) Entries : 3
=====
A:BA#
```

## statistics

- Syntax**     **statistics** [*ip-int-name* | *ip-address*]
- Context**     show>router>igmp
- Description** This command displays IGMP statistics information.
- Parameters** *ip-int-name* — Only displays the information associated with the specified IP interface name.  
*ip-addr* — Only displays the information associated with the specified IP address.

**Output** **IGMP Statistics Output** — The following table provides statistical IGMP field descriptions

Label	Description
IGMP Interface Statistics	The section listing the IGMP statistics for a particular interface.
Message Type	<p>Queries — The number of IGMP general queries transmitted or received on this interface.</p> <p>Report — The total number of IGMP V1, V2, or V3 reports transmitted or received on this interface.</p> <p>Leaves — The total number of IGMP leaves transmitted on this interface.</p>
Received	Column that displays the total number of IGMP packets received on this interface.
Transmitted	Column that displays the total number of IGMP packets transmitted from this interface.
General Interface Statistics	The section listing the general IGMP statistics.
Bad Length	Displays the total number of IGMP packets with bad length received on this interface.
Bad Checksum	Displays the total number of IGMP packets with bad checksum received on this interface.
Unknown Type	Displays the total number of IGMP packets with unknown type received on this interface.
Bad Receive If	Displays the total number of IGMP packets incorrectly received on this interface.
Rx Non Local	Displays the total number of IGMP packets received from a non-local sender.
Rx Wrong Version	Displays the total number of IGMP packets with wrong versions received on this interface.
Policy Drops	Displays the number of times IGMP protocol instance matched the host IP address or group/source addresses in the import policy.
No Router Alert	Displays the total number of IGMPv3 packets received on this interface which did not have the router alert flag set.

### Sample Output

```
A:BA# show router 100 igmp statistics
=====
IGMP Interface Statistics
=====
Message Type      Received      Transmitted
-----
Queries           0             5
```

## Show, Clear, Debug Commands

```
Report V1          0          0
Report V2          0          0
Report V3          0          0
Leaves             0          0
-----
General Interface Statistics
-----
Bad Length        : 0
Bad Checksum      : 0
Unknown Type      : 0
Bad Receive If    : 0
Rx Non Local      : 0
Rx Wrong Version  : 0
Policy Drops      : 0
No Router Alert   : 0
Rx Bad Encodings  : 0
Rx Pkt Drops      : 0
-----
Source Group Statistics
-----
(S,G)             : 2
(*,G)             : 1
=====
A:BA#
```

## status

**Syntax** **status**

**Context** show>router>igmp

**Description** This command displays IGMP status information.  
If IGMP is not enabled, the following message appears:

```
A:NYC# show router igmp status
MINOR: CLI IGMP is not configured.
A:NYC#
```

**Output** **IGMP Status Output** — The following table provides IGMP status field descriptions

Label	Description
Admin State	Displays the administrative status of IGMP.
Oper State	Displays the current operating state of this IGMP protocol instance on this router.
Query Interval	The frequency at which IGMP query packets are transmitted.
Last Member Query Interval	The maximum response time inserted into Group-Specific Queries sent in response to Leave Group messages, and is also the amount of time between Group-Specific Query messages.
Query Response Interval	The maximum query response time advertised in IGMPv2 queries.
Robust Count	Displays the number of times the router will retry a query.



**Sample Output**

```
A:BA# show router 100 igmp status
=====
IGMP Status
=====
Admin State           : Up
Oper State            : Up
Query Interval        : 1024
Last Member Query Interval : 1024
Query Response Interval : 1023
Robust Count          : 10
=====
A:BA
```

**bgp-evpn**

<b>Syntax</b>	<b>bgp-evpn</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays the bgp-evpn configured parameters for a given service, including the admin status of vxlan, the configuration for mac-advertisement and unknown-mac-route as well as the mac-duplication parameters. The command shows the duplicate mac addresses that mac-duplication has detected.
<b>Output</b>	<b>Sample Output</b>

```
*A:DutA# show service id 1 bgp-evpn
=====
BGP EVPN Table
=====
MAC Advertisement   : Enabled           Unknown MAC Route   : Disabled
VXLAN Admin Status  : Enabled           Creation Origin     : manual
MAC Dup Detn Moves  : 5                 MAC Dup Detn Window: 3
MAC Dup Detn Retry  : 9                 Number of Dup MACs : 1
=====
-----
Detected Duplicate MAC Addresses           Time Detected
-----
00:12:12:12:12:00                         01/17/2014 16:01:02
-----
=====
```

**dhcp**

<b>Syntax</b>	<b>dhcp</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command enables the context to display DHCP information for the specified service.

## lease-state

- Syntax** `lease-state [[sap sap-id] | [sdp sdp-id:vc-id] | [interface interface-name] | [ip-address ip-address]] [detail]`
- Context** `show>service>id>dhcp`
- Description** This command displays DHCP lease state related information.
- Parameters** `sap sap-id` — Specifies the physical port identifier portion of the SAP definition. See [Common CLI Command Descriptions on page 1271](#) for command syntax.
- `sdp-id` — The SDP identifier.
- Values** 1 — 17407
- `vc-id` — The virtual circuit ID on the SDP ID for which to display information.
- Values** 1 — 4294967295
- `interface interface-name` — Displays information for the specified IP interface.
- `ip-address ip-address` — Displays information associated with the specified IP address.
- `detail` — Displays detailed information.

### Sample Output

```
A:ALA-_Dut-A# show service id 13 dhcp lease-state
=====
DHCP lease state table, service 13
=====
IP Address      Mac Address      Sap/Sdp Id      Remaining      Lease      MC
                LifeTime        1/1/1:13        LifeTime      Origin     Stdby
-----
13.13.40.1      00:00:00:00:00:13 1/1/1:13        00h00m58s    Radius
-----
Number of lease states : 1
=====
A:ALA-_Dut-A#

A:ALA-_Dut-A# show service id 13 dhcp lease-state detail
=====
DHCP lease states for service 13
=====
Service ID      : 13
IP Address      : 13.13.40.1
Mac Address     : 00:00:00:00:00:13
Interface       : ies-13-13.13.1.1
SAP             : 1/1/1:13
Remaining Lifetime : 00h00m58s
Persistence Key : N/A

Sub-Ident       : "TEST"
Sub-Profile-String : "ADSL GO"
SLA-Profile-String : "BE-Video"
Lease ANCP-String : ""

Sub-Ident origin : Radius
```

```
Strings origin      : Radius
Lease Info origin   : Radius

Ip-Netmask          : 255.255.0.0
Broadcast-Ip-Addr   : 13.13.255.255
Default-Router      : N/A
Primary-Dns         : 13.13.254.254
Secondary-Dns       : 13.13.254.253

ServerLeaseStart    : 12/24/2006 23:44:07
ServerLastRenew     : 12/24/2006 23:44:07
ServerLeaseEnd      : 12/24/2006 23:45:07
Session-Timeout     : 0d 00:01:00
DHCP Server Addr    : N/A

Persistent Relay Agent Information
  Circuit Id        : ancstb6_Dut-A|13|ies-13-13.13.1.1|0|13
  Remote Id         : stringtest
-----
Number of lease states : 1
=====
A:ALA- _Dut-A#
```

**Routed CO Output Example**

```
A:ALA-_Dut-A# show service id 13 dhcp lease-state
=====
DHCP lease state table, service 13
=====
IP Address      Mac Address      Sap/Sdp Id      Remaining Lease   MC
                  LifeTime      Origin      Stdby
-----
13.13.40.1      00:00:00:00:00:13  1/1/1:13      00h00m58s  Radius
-----
Number of lease states : 1
=====
A:ALA-_Dut-A#
```

```
A:ALA-_Dut-A# show service id 13 dhcp lease-state detail
=====
DHCP lease states for service 13
=====
Service ID      : 13
IP Address      : 13.13.40.1
Mac Address     : 00:00:00:00:00:13
Subscriber-interface : ies-13-13.13.1.1
Group-interface : intf-13
SAP             : 1/1/1:13
Remaining Lifetime : 00h00m58s
Persistence Key : N/A

Sub-Ident      : "TEST"
Sub-Profile-String : "ADSL GO"
SLA-Profile-String : "BE-Video"
Lease ANCP-String : ""

Sub-Ident origin : Radius
Strings origin   : Radius
Lease Info origin : Radius

Ip-Netmask      : 255.255.0.0
Broadcast-Ip-Addr : 13.13.255.255
Default-Router  : N/A
Primary-Dns     : 13.13.254.254
Secondary-Dns   : 13.13.254.253

ServerLeaseStart : 12/24/2006 23:48:23
ServerLastRenew  : 12/24/2006 23:48:23
ServerLeaseEnd   : 12/24/2006 23:49:23
Session-Timeout  : 0d 00:01:00
DHCP Server Addr : N/A

Persistent Relay Agent Information
  Circuit Id      : ancstb6_Dut-A|13|intf-13|0|13
  Remote Id      : stringtest
-----
Number of lease states : 1
=====
A:ALA-_Dut-A#
```

**Wholesaler/Retailer Output Example**

```
A:ALA-_Dut-A# show service id 2000 dhcp lease-state detail
```

```
=====
DHCP lease states for service 2000
-----
```

```
Wholesaler 1000 Leases
-----
```

```
Service ID      : 1000
IP Address      : 13.13.1.254
Mac Address     : 00:00:00:00:00:13
Subscriber-interface : whole-sub
Group-interface : intf-13
Retailer        : 2000
Retailer If     : retail-sub
SAP             : 1/1/1:13
Remaining Lifetime : 00h09m59s
Persistence Key : N/A
```

```
Sub-Ident      : "TEST"
Sub-Profile-String : "ADSL GO"
SLA-Profile-String : "BE-Video"
Lease ANCP-String : ""
```

```
Sub-Ident origin : Retail DHCP
Strings origin   : Retail DHCP
Lease Info origin : Retail DHCP
```

```
Ip-Netmask      : 255.255.0.0
Broadcast-Ip-Addr : 13.13.255.255
Default-Router   : N/A
Primary-Dns      : N/A
Secondary-Dns    : N/A
```

```
ServerLeaseStart : 12/25/2006 00:29:41
ServerLastRenew  : 12/25/2006 00:29:41
ServerLeaseEnd   : 12/25/2006 00:39:41
Session-Timeout  : 0d 00:10:00
DHCP Server Addr : 10.232.237.2
```

```
Persistent Relay Agent Information
Circuit Id      : 1/1/1:13
Remote Id       : stringtest
-----
```

```
Number of lease states : 1
=====
```

```
A:ALA-_Dut-A#
```

## statistics

- Syntax** `statistics [sap sap-id`  
`statistics [sdp sdp-id:vc-id]`  
`statistics [interface interface-name]`
- Context** `show>service>id>dhcp`
- Description** Displays DHCP statistics information.
- Parameters** `sap sap-id` — Specifies the physical port identifier portion of the SAP definition. See [Common CLI Command Descriptions on page 1271](#) for command syntax.
- `sdp sdp-id` — The SDP identifier.
- Values** 1 — 17407
- `vc-id` — The virtual circuit ID on the SDP ID for which to display information.
- Values** 1 — 4294967295
- `interface interface-name` — Displays information for the specified IP interface.

## summary

- Syntax** `summary`
- Context** `show>service>id>dhcp`
- Description** Displays DHCP configuration summary information.
- Output** **Show DHCP Summary Output** — The following table describes the output fields for DHCP summary.

Label	Description
Interface Name	Name of the router interface.
Arp Populate	Specifies whether or not ARP populate is enabled.
Used/Provided	Used — The number of lease-states that are currently in use on a specific interface, that is, the number of clients on that interface got an IP address by DHCP. This value is always less than or equal to the 'Provided' field.
	Provided — The lease-populate value that is configured for a specific interface.
Info Option	Indicates whether Option 82 processing is enabled on the interface.
Admin State	Indicates the administrative state.

### Sample Output

```
A:ALA-49# show service id 88 dhcp summary
```

```

=====
DHCP Summary, service 88
=====
Interface Name           Arp      Used/      Info  Admin
  SapId/Sdp             Populate Provided  Option  State
-----
Sector A                No       0/0        Keep  Up
  sap:7/1/1.2.2         0/0
grp-if                  No       0/1        Keep  Down
  sap:2/2/2:0           0/1
  sap:2/2/2:0           0/1
test                    No       0/0        Keep  Up
  sap:10/1/2:0         0/0
-----
Interfaces: 3
=====
A:ALA-49#

```

## Show Multi-Chassis Endpoint Commands

### endpoint

<b>Syntax</b>	<b>endpoint</b> [ <i>endpoint-name</i> ]
<b>Context</b>	show>service>id
<b>Description</b>	This command displays service endpoint information.
<b>Parameters</b>	<i>endpoint-name</i> — Specifies an endpoint name created in the <b>config&gt;service&gt;vpls</b> context.

#### Sample Output

```
*A:Dut-B# show service id 1 endpoint
=====
Service 1 endpoints
=====
Endpoint name           : mcep-t1
Description             : (Not Specified)
Revert time            : 0
Act Hold Delay         : 0
Ignore Standby Signaling : false
Suppress Standby Signaling : false
Block On Mesh Fail     : true
Multi-Chassis Endpoint : 1
MC Endpoint Peer Addr  : 3.1.1.3
Psv Mode Active        : No
Tx Active              : 231:1
Tx Active Up Time      : 0d 00:06:57
Revert Time Count Down : N/A
Tx Active Change Count : 5
Last Tx Active Change  : 02/13/2009 22:08:33
-----
Members
-----
Spoke-sdp: 221:1 Prec:1           Oper Status: Up
Spoke-sdp: 231:1 Prec:2           Oper Status: Up
=====
*A:Dut-B#
```

### etree

<b>Syntax</b>	<b>etree</b>
<b>Context</b>	show>service>id
<b>Description</b>	This command displays the same information shown in the show service ID base context, with the addition of the role of each object in the VPLS E-Tree service.



The following labels identify the configuration of the SAPs and SDP bindings:

- (L) indicates leaf-ac
- (RL) indicates root-leaf-tag

**Parameters      Sample Output**

```
*A:DutA# show service id 2005 etree
=====
Service Basic Information
=====
Service Id       : 2005                Vpn Id           : 0
Service Type    : VPLS
Name            : (Not Specified)
Description     : (Not Specified)
Customer Id     : 1                   Creation Origin  : manual
Last Status Change: 07/08/2014 01:12:43
Last Mgmt Change : 07/08/2014 01:12:30
Etree Mode     : Enabled
Admin State     : Up                  Oper State       : Up
MTU             : 1514                Def. Mesh VC Id : 2005
SAP Count      : 5                   SDP Bind Count  : 1
Snd Flush on Fail : Disabled          Host Conn Verify : Disabled
Propagate MacFlush: Disabled          Per Svc Hashing  : Disabled
Allow IP Intf Bind: Disabled
Def. Gateway IP : None
Def. Gateway MAC : None
Temp Flood Time : Disabled           Temp Flood       : Inactive
Temp Flood Chg Cnt: 0
VSD Domain     : <none>

-----
Service Access & Destination Points
-----
Identifier                                     Type           AdmMTU  OprMTU  Adm  Opr
-----
sap:1/1/1:2005 (L)                            q-tag          1518    1518    Up   Up
sap:1/1/7:2006.200 (RL)                       qinq           9000    9000    Up   Up
sap:1/1/7:0.*                                  qinq           9000    9000    Up   Up
sap:1/1/7:2005.*                              qinq           9000    9000    Up   Up
sap:1/1/8:1                                    q-tag          1518    1518    Up   Up
sdp:12:2005 (RL) S(192.0.0.72)                Spok           0        8974    Up   Up
-----
Legend: (L): Leaf-Ac, (RL): Root-Leaf-Tag
=====
```

**multi-chassis**

- Syntax**      **multi-chassis**
- Context**    show>redundancy
- Description** This command enables the context to display multi-chassis information.

## mc-endpoint

<b>Syntax</b>	<b>mc-endpoint statistics</b> <b>mc-endpoint peer [ip-address] statistics</b> <b>mc-endpoint endpoint [mcep-id] statistics</b> <b>mc-endpoint peer [ip-address]</b>
<b>Context</b>	show>redundancy>multi-chassis
<b>Description</b>	This command displays multi-chassis endpoint information.
<b>Parameters</b>	<b>statistics</b> — Displays the global statistics for the MC endpoint. <b>peer ip-address</b> — Specifies the IP address of multi-chassis end-point peer. <b>endpoint mcep-id</b> — Specifies the multi-chassis endpoint.
<b>Values</b>	1 — 4294967295

### Sample Output

```
*A:Dut-B# show redundancy multi-chassis mc-endpoint statistics
=====
Multi-Chassis Endpoint Global Statistics
=====
Packets Rx                               : 533
Packets Rx Keepalive                     : 522
Packets Rx Config                         : 3
Packets Rx Peer Config                   : 1
Packets Rx State                         : 7
Packets Dropped Keep-Alive Task          : 7
Packets Dropped Too Short                 : 0
Packets Dropped Verify Failed            : 0
Packets Dropped Tlv Invalid Size         : 0
Packets Dropped Out Of Seq               : 0
Packets Dropped Unknown Tlv              : 0
Packets Dropped Tlv Invalid MC-Endpoint Id : 0
Packets Dropped MD5                      : 0
Packets Dropped Unknown Peer             : 0
Packets Dropped MC Endpoint No Peer      : 0
Packets Tx                               : 26099
Packets Tx Keepalive                     : 8221
Packets Tx Config                         : 2
Packets Tx Peer Config                   : 17872
Packets Tx State                         : 4
Packets Tx Failed                        : 0
=====
*A:Dut-B#

*A:Dut-B# show redundancy multi-chassis mc-endpoint peer 3.1.1.3 statistics
=====
Multi-Chassis MC-Endpoint Statistics
=====
Peer Addr                               : 3.1.1.3
-----
Packets Rx                               : 597
Packets Rx Keepalive                     : 586
Packets Rx Config                         : 3
Packets Rx Peer Config                   : 1
```

```

Packets Rx State           : 7
Packets Dropped State Disabled : 0
Packets Dropped Packets Too Short : 0
Packets Dropped Tlv Invalid Size : 0
Packets Dropped Tlv Invalid LagId : 0
Packets Dropped Out of Seq : 0
Packets Dropped Unknown Tlv : 0
Packets Dropped MD5 : 0
Packets Tx : 636
Packets Tx Keepalive : 600
Packets Tx Peer Config : 30
Packets Tx Failed : 0
Packets Dropped No Peer : 0

```

```
=====
*A:Dut-B#
```

```
*A:Dut-B# show redundancy multi-chassis mc-endpoint endpoint 1 statistics
```

```
=====
Multi-Chassis Endpoint Statistics
=====
```

```
MC-Endpoint Id 1
=====
```

```

Packets Rx Config           : 3
Packets Rx State           : 7
Packets Tx Config           : 2
Packets Tx State           : 4
Packets Tx Failed           : 0

```

```
=====
Number of Entries 1
=====
```

```
*A:Dut-B#
```

```
*A:Dut-B# tools dump redundancy multi-chassis mc-endpoint peer 3.1.1.3
```

```
=====
MC Endpoint Peer Info
```

```

peer addr                   : 3.1.1.3
peer name                   : Dut-C
peer name refs               : 1
src addr conf               : Yes
source addr                 : 2.1.1.2
num of mcep                 : 1
num of non-mcep             : 0
own sess num                : 58ba0d39
mc admin state              : Up
tlv own mc admin state      : Up
tlv peer mc admin state     : Up
reachable                   : Yes

own sys priority            : 50
own sys id                  : 00:03:fa:72:c3:c0
peer sys priority           : 21
peer sys id                 : 00:03:fa:c6:31:f8
master                      : No

conf boot timer             : 300
boot timer active           : No
conf ka intv                : 10
conf hold on num of fail    : 3
tlv own ka intv             : 10
tlv peer ka intv           : 10

```

## Show, Clear, Debug Commands

```
ka timeout tmr active      : Yes
ka timeout tmr intvl      : 20
ka timeout tmr time left  : 4
peer ka intv              : 10
mc peer timed out        : No

initial peer conf rx      : Yes
peer-mc disabled         : No
initial peer conf sync    : Yes
peer conf sync           : Yes

own passive mode         : Disable
peer passive mode       : No

retransmit pending       : No
non-mcep retransmit pending : No
retransmit intvl        : 5
last tx time            : 1437130
last rx time            : 1437156

own bfd                  : Enable
peer bfd                 : Enable
bfd vrtr if             : 2
bfd handle               : 1
bfd state                : 3
bfd code                 : 0
```

=====

\*A:Dut-B#

\*A:Dut-B# tools dump service mc-endpoint 1

```
=====
MC Endpoint Info
mc-endpoint id          : 1
endpoint                : mcep-t1
service                 : 1
peer ref type           : peer-name
peer                    : Dut-C
mc sel logic            : peer selected active
selection master        : No
retransmit pending      : No
initial config sync     : Yes
config sync             : Yes
peer not mcep           : No
peer acked non-mcep     : No
config mismatch         : No
initial state rx        : Yes
initial state sync      : Yes
state sync              : Yes
can aggregate           : Yes
sel peer active         : No
peer sel active         : Yes
passive mode active     : No
own eligible force      : No
own eligible double active : Yes
own eligible pw status bits : 0
own eligible precedence : 2
own eligible conf chg   : No
own eligible revert wait : No
peer eligible force     : No
peer eligible double active : Yes
```

```

peer eligible pw status bits : 0
peer eligible precedence    : 3
peer eligible conf chg      : No
peer eligible revert wait   : No
=====
*A:Dut-B#

*A:Dut-B# tools perform service id 1 endpoint mcep-t1 force-switchover 221:1
*A:Dut-B>show#
*A:Dut-B# show service id 1 endpoint
=====
Service 1 endpoints
=====
Endpoint name           : mcep-t1
Description             : (Not Specified)
Revert time             : 0
Act Hold Delay         : 0
Ignore Standby Signaling : false
Suppress Standby Signaling : false
Block On Mesh Fail     : true
Multi-Chassis Endpoint : 1
MC Endpoint Peer Addr  : 3.1.1.3
Psv Mode Active        : No
Tx Active               : 221:1(forced)
Tx Active Up Time      : 0d 00:00:17
Revert Time Count Down : N/A
Tx Active Change Count : 6
Last Tx Active Change  : 02/14/2009 00:17:32
-----
Members
-----
Spoke-sdp: 221:1 Prec:1           Oper Status: Up
Spoke-sdp: 231:1 Prec:2           Oper Status: Up
=====
*A:Dut-B#

```

---

## VPLS Clear Commands

### id

<b>Syntax</b>	<code>id service-id</code>
<b>Context</b>	<code>clear&gt;service</code> <code>clear&gt;service&gt;statistics</code>
<b>Description</b>	This command clears commands for a specific service.
<b>Parameters</b>	<i>service-id</i> — The ID that uniquely identifies a service.
<b>Values</b>	service-id: 1 — 214748364 svc-name: A string up to 64 characters in length.

### arp-host

<b>Syntax</b>	<code>arp-host</code> <code>arp-host { mac <i>ieee-address</i>   sap <i>sap-id</i>   ip-address <i>ip-address</i>[/<i>mask</i>] }</code> <code>arp-host [port <i>port-id</i>] [inter-dest-id <i>intermediate-destination-id</i>   no-inter-dest-id]</code> <code>arp-host statistics [sap <i>sap-id</i>   interface <i>interface-name</i>]</code>
<b>Context</b>	<code>clear&gt;service&gt;id</code>
<b>Description</b>	This command clears ARP host data.

### authentication

<b>Syntax</b>	<code>authentication</code>
<b>Context</b>	<code>clear&gt;service&gt;id</code>
<b>Description</b>	This command enables the context to clear session authentication information.

### capture-sap

<b>Syntax</b>	<code>capture-sap <i>sap-id</i> [<i>trigger</i>]</code>
<b>Context</b>	<code>clear&gt;service&gt;id</code>
<b>Description</b>	This command clears the statistics for a particular capture SAP.

## cem

<b>Syntax</b>	<b>cem</b>
<b>Context</b>	clear>service>id
<b>Description</b>	This command clears CEM statistics for this service.

## statistics

<b>Syntax</b>	<b>statistics</b>
<b>Context</b>	clear>service>stats clear>service>id>authentication
<b>Description</b>	This command clears session statistics for this service.

## fdb

<b>Syntax</b>	<b>fdb {all   mac <i>ieee-address</i>   sap <i>sap-id</i>]   mesh-sdp <i>sdp-id[:vc-id]</i>   spoke-sdp <i>sdp-id:vc-id</i>}</b>
<b>Context</b>	clear>service>id
<b>Description</b>	This command clears FDB entries for the service.
<b>Parameters</b>	<p><b>all</b> — Clears all FDB entries.</p> <p><b>mac <i>ieee-address</i></b> — Clears only FDB entries in the FDB table with the specified 48-bit MAC address. The MAC address can be expressed in the form <i>aa:bb:cc:dd:ee:ff</i> or <i>aa-bb-cc-dd-ee-ff</i> where <i>aa</i>, <i>bb</i>, <i>cc</i>, <i>dd</i>, <i>ee</i> and <i>ff</i> are hexadecimal numbers.</p> <p><b><i>sap-id</i></b> — Specifies the physical port identifier portion of the SAP definition. See <a href="#">Common CLI Command Descriptions on page 1271</a> for command syntax.</p> <p><b>mesh-sdp</b> — Clears only service FDB entries associated with the specified mesh SDP ID. For a mesh SDP, the VC ID is optional.</p> <p><b>spoke-sdp</b> — Clears only service FDB entries associated with the specified spoke SDP ID. For a spoke SDP, the VC ID must be specified.</p> <p><b><i>sdp-id</i></b> — The SDP ID for which to clear associated FDB entries.</p> <p><b><i>vc-id</i></b> — The virtual circuit ID on the SDP ID for which to clear associated FDB entries.</p>

<b>Values</b>	sdp-id[:vc-id]	<i>sdp-id</i>	1 — 17407
		vc-id	1 — 4294967295
	sdp-id:vc-id	sdp-id	1 — 17407
		vc-id	1 — 4294967295

## mld-snooping

<b>Syntax</b>	<b>mld-snooping</b>
<b>Context</b>	clear>service>id
<b>Description</b>	This command enables the context to clear MLD snooping-related data.

## port-db

<b>Syntax</b>	<b>port-db sap</b> <i>sap-id</i> [ <b>group</b> <i>grp-ipv6-address</i> ] <b>port-db sap</b> <i>sap-id</i> <b>group</b> <i>grp-ipv6-address</i> <b>source</b> <i>src-ipv6-address</i> <b>port-db sdp</b> <i>sdp-id:vc-id</i> [ <b>group</b> <i>grp-ipv6-address</i> ] <b>port-db sdp</b> <i>sdp-id:vc-id</i> <b>group</b> <i>grp-ipv6-address</i> <b>source</b> <i>src-ipv6-address</i>
<b>Context</b>	clear>service>id>mld-snooping
<b>Description</b>	This command clears MLD snooping port-db group data.

## querier

<b>Syntax</b>	<b>querier</b>
<b>Context</b>	clear>service>id>mld-snooping
<b>Description</b>	This command clears MLD snooping querier information.

## statistics

<b>Syntax</b>	<b>statistics all</b> <b>statistics sap</b> <i>sap-id</i> <b>statistics sdp</b> <i>sdp-id:vc-id</i>
<b>Context</b>	clear>service>id>mld-snooping
<b>Description</b>	This command clears MLD snooping statistics.

## msap

<b>Syntax</b>	<b>msap</b> <i>msap-id</i>
<b>Context</b>	clear>service>id
<b>Description</b>	This command clears the managed SAP (MSAP).
<b>Parameters</b>	<i>msap-id</i> — Specifies the MSAP ID.



<b>Values</b>	dot1q	<i>port-id</i>   <i>lag-id</i> :qtag1
	qinq	<i>port-id</i>   <i>lag-id</i> ::qtag1.qtag2
		qtag1 0 — 4094
		qtag2 0 — 4094

## mesh-sdp

<b>Syntax</b>	<b>mesh-sdp</b> <i>sdp-id</i> [: <i>vc-id</i> ] <b>ingress-vc-label</b>
<b>Context</b>	clear>service>id
<b>Description</b>	This command clears and resets the mesh SDP bindings for the service.
<b>Parameters</b>	<i>sdp-id</i> — The mesh SDP ID to be reset.
	<b>Values</b> 1 — 17407
	<i>vc-id</i> — The virtual circuit ID on the SDP ID to be reset.
	<b>Default</b> All VC IDs on the SDP ID.
	<b>Values</b> 1 — 4294967295

## proxy-arp

<b>Syntax</b>	<b>proxy-arp</b> <b>proxy-arp duplicate</b> [ <i>ip-address</i> ] <b>proxy-arp dynamic</b> [ <i>ip-address</i> ]
<b>Context</b>	clear>service>id
<b>Description</b>	This command allows all the duplicate or dynamic proxy-ARP entries to be cleared from the table. Individual IP entries can also be specified.

## proxy-nd

<b>Syntax</b>	<b>proxy-nd</b> <b>proxy-nd duplicate</b> [ <i>ipv6-address</i> ] <b>proxy-nd dynamic</b> [ <i>ipv6-address</i> ]
<b>Context</b>	clear>service>id
<b>Description</b>	This command allows all the duplicate or dynamic proxy-ND entries to be cleared from the table. Individual IPv6 entries can also be specified.

## spoke-sdp

**Syntax** `spoke-sdp sdp-id[:vc-id] {all | counters | stp | l2pt}`

**Context** `clear>service>id`

**Description** This command clears and resets the spoke SDP bindings for the service.

**Parameters** *sdp-id* — The spoke SDP ID to be reset.

**Values** 1 — 17407

*vc-id* — The virtual circuit ID on the SDP ID to be reset.

**Values** 1 — 4294967295

**all** — Clears all queue statistics and STP statistics associated with the SDP.

**counters** — Clears all queue statistics associated with the SDP.

**stp** — Clears all STP statistics associated with the SDP.

**l2pt** — Clears all L2PT statistics associated with the SDP.

## sap

<b>Syntax</b>	<b>sap</b> <i>sap-id</i> { <b>all</b>   <b>cem</b>   <b>counters</b>   <b>l2pt</b>   <b>stp</b>   <b>mrp</b> }
<b>Context</b>	clear>service>statistics
<b>Description</b>	This command clears statistics for the SAP bound to the service.
<b>Parameters</b>	<i>sap-id</i> — See <a href="#">Common CLI Command Descriptions on page 1271</a> for command syntax. <b>all</b> — Clears all queue statistics and STP statistics associated with the SAP. <b>cem</b> — Clears all CEM statistics associated with the SAP. <b>counters</b> — Clears all queue statistics associated with the SAP. <b>l2pt</b> — Clears all L2PT statistics associated with the SAP. <b>stp</b> — Clears all STP statistics associated with the SAP. <b>mrp</b> — Clears all MRP statistics associated with the SAP.

## sdp

<b>Syntax</b>	<b>sdp</b> <i>sdp-id</i> [ <b>keep-alive</b> ]
<b>Context</b>	clear>service>statistics
<b>Description</b>	This command clears keepalive statistics associated with the SDP ID.
<b>Parameters</b>	<i>sdp-id</i> — The SDP ID for which to clear statistics. <b>Values</b> 1 — 17407 <b>keep-alive</b> — Clears the keep-alive history associated with this SDP ID.

## counters

<b>Syntax</b>	<b>counters</b>
<b>Context</b>	clear>service>statistics>id
<b>Description</b>	This command clears all traffic queue counters associated with the service ID.

## l2pt

<b>Syntax</b>	<b>l2pt</b>
<b>Context</b>	clear>service>statistics>id
<b>Description</b>	This command clears the l2pt statistics for this service.

## mesh-sdp

<b>Syntax</b>	<b>mesh-sdp</b> <i>sdp-id[:vc-id]</i> { <b>all</b>   <b>counters</b>   <b>stp</b>   <b>mrp</b> }
<b>Context</b>	clear>service>statistics>id
<b>Description</b>	This command clears the statistics for a particular mesh SDP bind.
<b>Parameters</b>	<i>sdp-id[:vc-id]</i> — <i>sdp-id</i> - [1..17407] <i>vc-id</i> - [1..4294967295] <b>all</b> — Clears all queue statistics and STP statistics associated with the SDP. <b>counters</b> — Clears all queue statistics associated with the SDP. <b>stp</b> — Clears all STP statistics associated with the SDP. <b>mrp</b> — Clears all MRP statistics associated with the SDP.

## mrp

<b>Syntax</b>	<b>mrp</b>
<b>Context</b>	clear>service>statistics>id
<b>Description</b>	This command clears all MRP statistics for the service ID.

## pip

<b>Syntax</b>	<b>pip</b>
<b>Context</b>	clear>service>statistics>id
<b>Description</b>	This command clears the Provider Internal Port statistics for this service

## spoke-sdp

<b>Syntax</b>	<b>spoke-sdp</b> <i>sdp-id[:vc-id]</i> { <b>all</b>   <b>counters</b>   <b>stp</b>   <b>l2pt</b>   <b>mrp</b> }
<b>Context</b>	clear>service>statistics>id
<b>Description</b>	This command clears statistics for the spoke SDP bound to the service.
<b>Parameters</b>	<i>sdp-id</i> — The spoke SDP ID for which to clear statistics. <b>Values</b> 1 — 17407 <i>vc-id</i> — The virtual circuit ID on the SDP ID to be reset. <b>Values</b> 1 — 4294967295 <b>all</b> — Clears all queue statistics and STP statistics associated with the SDP.

**counters** — Clears all queue statistics associated with the SDP.

**stp** — Clears all STP statistics associated with the SDP.

**l2pt** — Clears all L2PT statistics associated with the SDP.

**mrp** — Clears all MRP statistics associated with the SDP.

## stp

<b>Syntax</b>	<b>stp</b>
<b>Context</b>	clear>service>statistics>id
<b>Description</b>	Clears all spanning tree statistics for the service ID.

## detected-protocols

<b>Syntax</b>	<b>detected-protocols</b> { <b>all</b>   <b>sap</b> <i>sap-id</i>   <b>spoke-sdp</b> <i>sdp-id[:vc-id]</i> }
<b>Context</b>	clear>service>id>stp
<b>Description</b>	RSTP automatically falls back to STP mode when it receives an STP BPDU. The <b>clear detected-protocols</b> command forces the system to revert to the default RSTP mode on the SAP or spoke SDP.
<b>Parameters</b>	<p><b>all</b> — Clears all detected protocol statistics.</p> <p><i>sap-id</i> — Clears the specified lease state SAP information. See <a href="#">Common CLI Command Descriptions on page 1271</a> for command syntax.</p> <p><i>sdp-id</i> — The SDP ID to be cleared.</p> <p><b>Values</b> 1 — 17407</p> <p><i>vc-id</i> — The virtual circuit ID on the SDP ID to be cleared.</p> <p><b>Values</b> 1 — 4294967295</p>

## lease-state

<b>Syntax</b>	<b>lease-state</b> [ <b>no-dhcp-release</b> ] <b>lease-state ip-address</b> <i>ip-address</i> [ <b>no-dhcp-release</b> ] <b>lease-state mac</b> <i>ieee-address</i> <b>no-dhcp-release</b> <b>lease-state sap</b> <i>sap-id</i> [ <b>no-dhcp-release</b> ] <b>lease-state sdp</b> <i>sdp-id:vc-id</i> [ <b>no-dhcp-release</b> ]
<b>Context</b>	clear>service>id>dhcp
<b>Description</b>	This command clears DHCP lease state information.
<b>Parameters</b>	<b>no-dhcp-release</b> — Specifies that the node will clear the state without sending the DHCP release message.

## Show, Clear, Debug Commands

**ip-address** *ip-address* — Clears the DHCP IP address lease state information. The *ip-address* portion of the **address** command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

**mac** *ieee-address* — Clears DHCP MAC address lease state information. The 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

**sap** *sap-id* — Clears DHCP SAP lease state information. See [Common CLI Command Descriptions on page 1271](#) for command syntax.

*sdp-id* — The SDP ID to be cleared.

**Values** 1 — 17407

*vc-id* — The virtual circuit ID on the SDP ID to be cleared.

**Values** 1 — 4294967295

## statistics

<b>Syntax</b>	<b>statistics</b> [ <b>sap</b> <i>sap-id</i>   <b>sdp</b> [ <i>sdp-id</i> : <i>vc-id</i> ]   <b>interface</b> [ <i>ip-address</i>   <i>ip-int-name</i> ]]
<b>Context</b>	clear>service>id>dhcp
<b>Description</b>	Clears DHCP statistics for this service.
<b>Parameters</b>	<i>sap-id</i> — Clears the specified SAP statistics. See <a href="#">Common CLI Command Descriptions on page 1271</a> for command syntax. <i>sdp-id</i> — The SDP ID to be cleared. <b>Values</b> 1 — 17407 <i>vc-id</i> — The virtual circuit ID on the SDP ID to be cleared. <b>Values</b> 1 — 4294967295 <b>interface</b> <i>ip-int-name</i> — Clears the statistics for the IP interface with the specified name. <b>interface</b> <i>ip-addr</i> — Clears the statistics for the IP interface with the specified IP address.

## statistics

<b>Syntax</b>	<b>statistics</b> { <b>all</b>   <b>sap</b> <i>sap-id</i>   <b>sdp</b> <i>sdp-id</i> : <i>vc-id</i> }
<b>Context</b>	clear>service>id>igmp-snooping
<b>Description</b>	Clears IGMP snooping statistics for the VPLS service.
<b>Parameters</b>	<b>sap</b> <i>sap-id</i> — Clears the IGMP snooping information on the specified SAP. See <a href="#">Common CLI Command Descriptions on page 1271</a> for command syntax.

**sdp** *sdp-id* — Clears only IGMP snooping entries associated with the specified mesh SDP or spoke SDP. For a spoke SDP, the VC ID must be specified, for a mesh SDP, the VC ID is optional.

**Values** 1 — 17407

*vc-id* — The virtual circuit ID on the SDP ID for which to clear statistics.

**Default** For mesh SDPs only, all VC IDs.

**Values** 1 — 4294967295

## port-db

**Syntax** **port-db** [**sap** *sap-id*] [**group** *grp-address* [**source** *ip-address*] ]  
**port-db sdp** *sdp-id:vc-id* [**group** *grp-address* [**source** *ip-address*]]

**Context** clear>service>id>igmp-snooping

**Description** This command clears the information on the IGMP snooping port database for the VPLS service.

**Parameters** **sap** *sap-id* — Clears IGMP snooping statistics matching the specified SAP ID and optional encapsulation value. See [Common CLI Command Descriptions on page 1271](#) for command syntax.

*sdp-id* — Clears only IGMP snooping entries associated with the specified mesh SDP or spoke SDP. For a spoke SDP, the VC ID must be specified, for a mesh SDP, the VC ID is optional.

**Values** 1 — 17407

*vc-id* — The virtual circuit ID on the SDP ID for which to clear information.

**Default** For mesh SDPs only, all VC IDs.

**Values** 1 — 4294967295

**group** *grp-address* — Clears IGMP snooping statistics matching the specified group address.

**source** *ip-address* — Clears IGMP snooping statistics matching the specified particular source.

## querier

**Syntax** **querier**

**Context** clear>service>id>igmp-snooping

**Description** This command clears the information on the IGMP snooping queriers for the VPLS service.

## mfib

**Syntax** **mfib**

**Context** clear>service>id>

## Show, Clear, Debug Commands

**Description** This command enables the context to clear multicast FIB info for the VPLS service.

### statistics

**Syntax** **statistics** {**all** | **ip** | **mac**}  
**statistics group** *grp-address*  
**statistics** [**all** | **sap** *sap-id*]

**Context** clear>service>id>mfib

**Description** This command clears multicast FIB statistics for the VPLS service.

**Parameters** *grp-address* — Specifies an IGMP multicast group address that receives data on an interface.  
**all** — Clears all statistics for the service ID.  
**sap** *sap-id* — Clears statistics for the specified SAP ID.

### statistics

**Syntax** **statistics** { **all** | **sap** *sap-id* | **sdp** *sdp-id:vc-id* }

**Context** clear>service>id>snooping

**Description** This command clears IGMP snooping statistics.

**Parameters** **all** — Clears all statistics for the service ID.  
**sap** *sap-id* — Clears statistics for the specified SAP ID.  
**sdp** *sdp-id:vc-id* —

<b>Values</b>	<i>sdp-id:</i>	1 — 17407
	<i>vc-id:</i>	1 — 4294967295

### dhcp

**Syntax** **dhcp**

**Context** clear>router

**Description** This command enables the context to clear and reset DHCP entities.

### statistics

**Syntax** **statistics** [**interface** *ip-int-name* | *ip-address*]

**Context** clear>router>dhcp

**Description** Clears DHCP statistics.



**interface** *ip-int-name* — Clears the statistics for the IP interface with the specified name.

**interface** *ip-addr* — Clears the statistics for the IP interface with the specified IP address.

## VPLS Debug Commands

### id

<b>Syntax</b>	<code>id service-id</code>
<b>Context</b>	<code>debug&gt;service</code>
<b>Description</b>	This command debugs commands for a specific service.
<b>Parameters</b>	<i>service-id</i> — The ID that uniquely identifies a service.
<b>Values</b>	service-id: 1 — 214748364 svc-name: A string up to 64 characters in length.

### arp-host

<b>Syntax</b>	<code>[no] arp-host</code>
<b>Context</b>	<code>debug&gt;service&gt;id</code>
<b>Description</b>	This command enables and configures ARP host debugging. The <b>no</b> form of the command disables ARP host debugging.

### igmp-snooping

<b>Syntax</b>	<code>[no] igmp-snooping</code>
<b>Context</b>	<code>debug&gt;service&gt;id</code>
<b>Description</b>	This command enables and configures IGMP-snooping debugging.

### detail-level

<b>Syntax</b>	<code>detail-level {low   medium   high}</code> <code>no detail-level</code>
<b>Context</b>	<code>debug&gt;service&gt;id&gt;igmp</code>
<b>Description</b>	This command enables and configures the IGMP tracing detail level. The <b>no</b> form of the command disables the IGMP tracing detail level.

## mac

<b>Syntax</b>	<b>[no] mac</b> <i>ieee-address</i>
<b>Context</b>	debug>service>id>igmp
<b>Description</b>	This command shows IGMP packets for the specified MAC address. The <b>no</b> form of the command disables the MAC debugging.

## mode

<b>Syntax</b>	<b>mode</b> { <b>dropped-only</b>   <b>ingr-and-dropped</b>   <b>egr-ingr-and-dropped</b> } <b>no mode</b>
<b>Context</b>	debug>service>id>igmp
<b>Description</b>	This command enables and configures the IGMP tracing mode. The <b>no</b> form of the command disables the configures the IGMP tracing mode.

## sap

<b>Syntax</b>	<b>[no] sap</b> <i>sap-id</i>
<b>Context</b>	debug>service>id>igmp
<b>Description</b>	This command shows IGMP packets for a specific SAP. The <b>no</b> form of the command disables the debugging for the SAP.

## sdp

<b>Syntax</b>	<b>[no] sdp</b> <i>sdp-id:vc-id</i>
<b>Context</b>	debug>service>id>igmp
<b>Description</b>	This command shows IGMP packets for a specific SDP. The <b>no</b> form of the command disables the debugging for the SDP.
<b>Parameters</b>	<i>sdp-id</i> — Displays only IGMP snooping entries associated with the specified mesh SDP or spoke SDP. For a spoke SDP, the VC ID must be specified, for a mesh SDP, the VC ID is optional. <b>Values</b> 1 — 17407 <i>vc-id</i> — The virtual circuit ID on the SDP ID for which to display information. <b>Values</b> 1 — 4294967295

## vxlan

**Syntax** [no] vxlan vtep vtep vni vni-id

**Context** debug>service>id>igmp-snooping

**Description** This command shows IGMP packets for a specific VXLAN binding.  
The **no** form of the command disables the debugging for that VXLAN binding.

**Parameters** **vtep** — IP address of the VXLAN Termination Endpoint.  
**vni** — VXLAN Network Identifier of the VXLAN binding.

**Values** 1 — 16777215

## mld-snooping

**Syntax** [no] mld-snooping

**Context** debug>service>id

**Description** This command enables and configures MLD-snooping debugging.  
The **no** form of the command disables MLD-snooping debugging

## detail-level

**Syntax** detail-level {low | medium | high}  
no detail-level

**Context** debug>service>id>mld

**Description** This command enables and configures the MLD tracing detail level.  
The **no** form of the command disables the MLD tracing detail level.

## mac

**Syntax** [no] mac ieee-address

**Context** debug>service>id>mld

**Description** This command shows MLD packets for the specified MAC address.  
The **no** form of the command disables the MAC debugging.

## mode

<b>Syntax</b>	<b>mode</b> {dropped-only   ingr-and-dropped   egr-ingr-and-dropped} <b>no mode</b>
<b>Context</b>	debug>service>id>mld
<b>Description</b>	This command enables and configures the MLD tracing mode. The <b>no</b> form of the command disables the configures the MLD tracing mode.

## Show, Clear, Debug Commands

### sap

<b>Syntax</b>	<b>[no] sap <i>sap-id</i></b>
<b>Context</b>	debug>service>id>mld
<b>Description</b>	This command shows MLD packets for a specific SAP. The <b>no</b> form of the command disables the debugging for the SAP.

### sdp

<b>Syntax</b>	<b>[no] sdp <i>sdp-id:vc-id</i></b>
<b>Context</b>	debug>service>id>mld
<b>Description</b>	This command shows MLD packets for a specific SDP. The <b>no</b> form of the command disables the debugging for the SDP.
<b>Parameters</b>	<i>sdp-id</i> — Displays only MLD entries associated with the specified mesh SDP or spoke SDP. <b>Values</b> 1 — 17407 <i>vc-id</i> — The virtual circuit ID on the SDP ID for which to display information. <b>Values</b> 1 — 4294967295

### mrp

<b>Syntax</b>	<b>[no] mrp</b>
<b>Context</b>	debug>service>id
<b>Description</b>	This command enables and configures MRP debugging.

### all-events

<b>Syntax</b>	<b>all-events</b>
<b>Context</b>	debug>service>id>mrp
<b>Description</b>	This command enables MRP debugging for the applicant, leave all, periodic and registrant state machines and enables debugging of received and transmuted MRP PDUs.

### applicant-sm

<b>Syntax</b>	<b>[no] applicant-sm</b>
<b>Context</b>	debug>service>id>mrp

**Description** This command enables debugging of the applicant state machine.  
The **no** form of the command disables debugging of the applicant state machine.

## leave-all-sm

**Syntax** **[no] leave-all-sm**

**Context** debug>service>id>mrp

**Description** This command enables debugging of the leave all state machine.  
The **no** form of the command disables debugging of the leave all state machine.

## mmp-mac

**Syntax** **[no] mmp-mac *ieee-address***

**Context** debug>service>id>mrp

**Description** This command filters debug events and only shows events related to the MAC address specified.  
The **no** form of the command removes the debug filter.

**Parameters** *ieee-address* — xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx (cannot be all zeroes)

## mrpdu

**Syntax** **[no] mrpdu**

**Context** debug>service>id>mrp

**Description** This command enables debugging of the MRP PDUs that are received or transmitted.  
The **no** form of the command disables debugging of MRP PDUs.

## periodic-sm

<b>Syntax</b>	<b>[no] periodic-sm</b>
<b>Context</b>	debug>service>id>mrp
<b>Description</b>	This command enables debugging of the periodic state machine. The <b>no</b> form of the command disables debugging of the periodic state machine.

## registrant-sm

<b>Syntax</b>	<b>[no] registrant-sm</b>
<b>Context</b>	debug>service>id>mrp
<b>Description</b>	This command enables debugging of the registrant state machine. The <b>no</b> form of the command disables debugging of the registrant state machine.

## sap

<b>Syntax</b>	<b>[no] sap sap-id</b>
<b>Context</b>	debug>service>id>mrp
<b>Description</b>	This command filters debug events and only shows events for the particular SAP. The <b>no</b> form of the command removes the debug filter.
<b>Parameters</b>	<i>sap-id</i> — See <a href="#">Common CLI Command Descriptions on page 1271</a> for command syntax.

## sdp

<b>Syntax</b>	<b>[no] sdp sdp-id:vc-id</b>
<b>Context</b>	debug>service>id>mrp
<b>Description</b>	This command filters debug events and only shows events for the particular SDP. The <b>no</b> form of the command removes the debug filter.
<b>Parameters</b>	<i>sdp-id</i> — Displays only MLD entries associated with the specified mesh SDP or spoke SDP. <b>Values</b> 1 — 17407 <i>vc-id</i> — The virtual circuit ID on the SDP ID for which to display information. <b>Values</b> 1 — 4294967295



## event-type

<b>Syntax</b>	<b>[no] event-type {config-change   svc-oper-status-change   sap-oper-status-change   sdpbind-oper-status-change}</b>
<b>Context</b>	debug>service>id
<b>Description</b>	This command enables a particular debugging event type. The <b>no</b> form of the command disables the event type debugging.
<b>Parameters</b>	<p><b>config-change</b> — Debugs configuration change events.</p> <p><b>svc-oper-status-change</b> — Debugs service operational status changes.</p> <p><b>sap-oper-status-change</b> — Debugs SAP operational status changes.</p> <p><b>sdpbind-oper-status-change</b> — Debugs SDP operational status changes.</p>

## host-connectivity-verify

<b>Syntax</b>	<b>[no] host-connectivity-verify</b>
<b>Context</b>	debug>service>id
<b>Description</b>	This command enables Subscriber Host Connectivity Verification (SHCV) debugging. The <b>no</b> form of the command disables the SHCV debugging.

## ip

<b>Syntax</b>	<b>[no] ip ip-address</b>
<b>Context</b>	debug>service>id>host-connectivity-verify
<b>Description</b>	This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular IP address.
<b>Parameters</b>	<i>ip-address</i> — The IP address of the IP interface. The <i>ip-address</i> portion of the <b>address</b> command specifies the IP host address that will be used by the IP interface within the subnet. This address must be unique within the subnet and specified in dotted decimal notation. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

## mac

<b>Syntax</b>	<b>[no] mac</b> <i>ieee-address</i>
<b>Context</b>	debug>service>id>host-connectivity-verify
<b>Description</b>	This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular MAC address.
<b>Parameters</b>	<i>mac-address</i> — Specifies the 48-bit MAC address for the static ARP in the form aa:bb:cc:dd:ee:ff or aa-bb-cc-dd-ee-ff where aa, bb, cc, dd, ee, and ff are hexadecimal numbers. Allowed values are any non-broadcast, non-multicast MAC and non-IEEE reserved MAC addresses.

## proxy-arp

<b>Syntax</b>	<b>proxy-arp</b> [ <b>mac</b> [ <i>ieee-address</i> ]] [ <b>ip</b> [ <i>ipaddr</i> ] <b>all</b> ]]
<b>Context</b>	debug>service>id
<b>Description</b>	This command enables the debug of the proxy-arp function for a given service. Alternatively, the debug can be enabled only for certain entries given by their IP or MAC addresses.

## proxy-nd

<b>Syntax</b>	<b>proxy-nd</b> [ <b>mac</b> [ <i>ieee-address</i> ]] [ <b>ip</b> [ <i>ipaddr</i> ] <b>all</b> ]]
<b>Context</b>	debug>service>id
<b>Description</b>	This command enables the debug of the proxy-nd function for a given service. Alternatively, the debug can be enabled only for certain entries given by their IPv6 or MAC addresses.

## sap

<b>Syntax</b>	<b>[no] sap</b> <i>sap-id</i>
<b>Context</b>	debug>service>id>host-connectivity-verify
<b>Description</b>	This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular SAP.
<b>Parameters</b>	<i>sap-id</i> — Specifies the physical port identifier portion of the SAP definition. See <a href="#">Common CLI Command Descriptions on page 1271</a> for command syntax.

## sap

<b>Syntax</b>	<b>[no] sap <i>sap-id</i></b>
<b>Context</b>	debug>service>id
<b>Description</b>	This command enables debugging for a particular SAP.
<b>Parameters</b>	<i>sap-id</i> — Specifies the SAP ID.

## stp

<b>Syntax</b>	<b>stp</b>
<b>Context</b>	debug>service>id
<b>Description</b>	This command enables the context for debugging STP.

## all-events

<b>Syntax</b>	<b>all-events</b>
<b>Context</b>	debug>service>id>stp
<b>Description</b>	This command enables STP debugging for all events.

## bpdu

<b>Syntax</b>	<b>[no] bpdu</b>
<b>Context</b>	debug>service>id>stp
<b>Description</b>	This command enables STP debugging for received and transmitted BPDUs.

## core-connectivity

<b>Syntax</b>	<b>[no] core-connectivity</b>
<b>Context</b>	debug>service>id>stp
<b>Description</b>	This command enables STP debugging for core connectivity.

## exception

<b>Syntax</b>	<b>[no] exception</b>
<b>Context</b>	debug>service>id>stp
<b>Description</b>	This command enables STP debugging for exceptions.

## fsm-state-changes

<b>Syntax</b>	<b>[no] fsm-state-changes</b>
<b>Context</b>	debug>service>id>stp
<b>Description</b>	This command enables STP debugging for FSM state changes.

## fsm-timers

<b>Syntax</b>	<b>[no] fsm-timers</b>
<b>Context</b>	debug>service>id>stp
<b>Description</b>	This command enables STP debugging for FSM timer changes.

## port-role

<b>Syntax</b>	<b>[no] port-role</b>
<b>Context</b>	debug>service>id>stp
<b>Description</b>	This command enables STP debugging for changes in port roles.

## port-state

<b>Syntax</b>	<b>[no] port-state</b>
<b>Context</b>	debug>service>id>stp
<b>Description</b>	This command enables STP debugging for port states.

## sap

<b>Syntax</b>	<b>[no] sap <i>sap-id</i></b>
<b>Context</b>	debug>service>id>stp

<b>Description</b>	This command enables STP debugging for a specific SAP.
<b>Parameters</b>	<i>sap-id</i> — Specifies the physical port identifier portion of the SAP definition. See <a href="#">Common CLI Command Descriptions on page 1271</a> for command syntax.

## sdp

<b>Syntax</b>	<b>[no] sdp</b> <i>sdp-id:vc-id</i>
<b>Context</b>	debug>service>stp
<b>Description</b>	This command enables STP debugging for a specific SDP.

## interface

<b>Syntax</b>	<b>[no] interface</b> [ <i>ip-int-name</i>   <i>ip-address</i> ]
<b>Context</b>	debug>router>igmp
<b>Description</b>	This command enables debugging on the IGMP interface.
<b>Parameters</b>	<i>ip-int-name</i> — Only displays the information associated with the specified IP interface name. <i>ip-address</i> — Only displays the information associated with the specified IP address.

## mcs

<b>Syntax</b>	<b>[no] mcs</b> [ <i>ip-int-name</i> ]
<b>Context</b>	debug>router>igmp
<b>Description</b>	This command enables debugging for IGMP MCS.
<b>Parameters</b>	<i>ip-int-name</i> — Only displays the information associated with the specified IP interface name.

## misc

<b>Syntax</b>	<b>[no] misc</b>
<b>Context</b>	debug>router>igmp
<b>Description</b>	This command enables debugging for IGMP miscellaneous.

## packet

- Syntax** `[no] packet [query|v1-report|v2-report|v3-report|v2-leave] [ip-int-name | ip-address]`
- Context** `debug>router>igmp`
- Description** This command enables debugging for IGMP packets.
- Parameters** `query v1/v2/v3-report, v2-leave` — Select the type of packet to debug.  
`ip-int-name` — Only displays the information associated with the specified IP interface name.  
`ip-address` — Only displays the information associated with the specified IP address.

## provider-tunnels

- Syntax** `provider-tunnels type`
- Context** `tools>dump>service>vpls`
- Description** This command dumps the inclusive provider tunnels based on type.
- Output**
- ```
*A:Dut-C>tools# dump service vpls 1001 provider-tunnels type terminating
=====
VPLS 1001 Inclusive Provider Tunnels Terminating

=====
ipmsi (RSVP)                                P2MP-ID Tunl-ID Ext-Tunl-ID
-----
   1001    61440    10.20.1.1
   1001    64944    10.20.1.2
-----

*A:Dut-C>tools# dump service vpls 1001 provider-tunnels type originating
=====
VPLS 1001 Inclusive Provider Tunnels Originating

=====
ipmsi (RSVP)                                P2MP-ID Tunl-ID Ext-Tunl-ID
-----
ipmsi-1001-73728                            1001    61440    10.20.1.3
-----

*A:Dut-C>tools# dump service vpls 1001 provider-tunnels
=====
VPLS 1001 Inclusive Provider Tunnels Originating
=====
ipmsi (RSVP)                                P2MP-ID Tunl-ID Ext-Tunl-ID
-----
ipmsi-1001-73728                            1001    61440    10.20.1.3
```

```

-----
=====
VPLS 1001 Inclusive Provider Tunnels Terminating
=====
ipmsi (RSVP)                P2MP-ID Tunl-ID Ext-Tunl-ID
-----
                                1001    61440    10.20.1.1
                                1001    64944    10.20.1.2
-----

```

```

*A:Dut-C>tools# dump service vpls 1001 provider-tunnels type terminating
=====
VPLS 1001 Inclusive Provider Tunnels Terminating
=====
ipmsi (RSVP)                P2MP-ID Tunl-ID Ext-Tunl-ID
-----
                                1001    61440    10.20.1.1
                                1001    64944    10.20.1.2
-----

```

```

*A:Dut-C>tools# dump service vpls 1001 provider-tunnels type originating
=====
VPLS 1001 Inclusive Provider Tunnels Originating
=====
ipmsi (RSVP)                P2MP-ID Tunl-ID Ext-Tunl-ID
-----
ipmsi-1001-73728            1001    61440    10.20.1.3
-----

```

```

*A:Dut-C>tools# dump service vpls 1001 provider-tunnels
=====
VPLS 1001 Inclusive Provider Tunnels Originating
=====
ipmsi (RSVP)                P2MP-ID Tunl-ID Ext-Tunl-ID
-----
ipmsi-1001-73728            1001    61440    10.20.1.3
-----

```

## Show, Clear, Debug Commands

```
=====
VPLS 1001 Inclusive Provider Tunnels Terminating
=====

ipmsi (RSVP)                                P2MP-ID Tunl-ID Ext-Tunl-ID
-----
   1001      61440   10.20.1.1
   1001      64944   10.20.1.2
-----
```

### proxy-arp

**Syntax** proxy-arp usage

**Context** tools>dump>service

**Description** This command provides information about the usage and limit of the system-wide proxy-arp table for all the services. The command also shows if the limit has been exceeded and a trap raised.

**Output**

```
*A:Dut# tools dump service proxy-arp usage
Proxy arp Usage
Current Usage      :          10
System Limit       :       511999
High Usage Trap Raised:      No
High Usage Threshold:      95 percent
High Usage Clear Threshold:  90 percent
```

### proxy-nd

**Syntax** proxy-nd usage

**Context** tools>dump>service

**Description** This command provides information about the usage and limit of the system-wide proxy-nd table for all the services. The command also shows if the limit has been exceeded and a trap raised.

**Output**

```
*A:Dut# tools dump service proxy-nd usage
Proxy nd Usage
Current Usage      :           0
System Limit       :       511999
High Usage Trap Raised:      No
High Usage Threshold:      95 percent
High Usage Clear Threshold:  90 percent
```



## vxlan

- Syntax** `vxlan [clear]`
- Context** `tools>dump>service`
- Description** This command displays the number of times a service could not add a VXLAN binding or <VTEP, Egress VNI> due to the following limits:
- The per System VTEP limit has been reached
  - The per System <VTEP, Egress VNI> limit has been reached
  - The per Service <VTEP, Egress VNI> limit has been reached
  - The per System Bind limit: Total bind limit or vxlan bind limit has been reached.
- The command adds a [clear] option to clear the above statistics.

**Output**

```
*A:PE63# tools dump service id 3 vxlan
VTEP, Egress VNI Failure statistics at 000 00:03:55.710:
statistics last cleared at 000 00:00:00.000:
      Statistic          |      Count
-----+-----
                VTEP |          0
      Service Limit |          0
      System Limit |          0
  Egress Mcast List Limit |          0
Duplicate VTEP, Egress VNI |          1
```

## dup-vtep-egrvni

- Syntax** `dup-vtep-egrvni [clear]`
- Context** `tools>dump>service>vxlan`
- Description** This command dumps the <VTEP, VNI> bindings that have been detected as duplicate attempts, that is, an attempt to add the same binding to more than one service. The command provides a 'clear' option.

**Output**

```
*A:PE71# tools dump service vxlan dup-vtep-egrvni
Duplicate VTEP, Egress VNI usage attempts at 000 00:03:41.570:
1. 10.1.1.1:100
```

## usage

- Syntax** `usage`
- Context** `tools>dump>service>vxlan`
- Description** This command displays the consumed VXLAN resources in the system.

**Output**

```
*A:PE71# tools dump service vxlan usage
VXLAN usage statistics at 001 17:46:11.170:
```

## Show, Clear, Debug Commands

```
VTEP : 5/8191
VTEP, Egress VNI : 5/131071
Sdp Bind + VTEP, Egress VNI : 13/196607
RVPLS Egress VNI : 0/40959
```