

---

# IES Show Commands

## customer

**Syntax** `customer [customer-id] [site customer-site-name]`

**Context** `show>service`

**Description** This command displays service customer information.

**Parameters** *customer-id* — Displays only information for the specified customer ID.

**Default** All customer IDs display

**Values** 1 — 2147483647

*site customer-site-name* — Specifies the customer site which is an anchor point for an ingress and egress virtual scheduler hierarchy.

**Output** **Show Customer Command Output** — The following table describes show customer command output fields:

Label	Description
Customer-ID	The ID that uniquely identifies a customer.
Contact	The name of the primary contact person.
Description	Generic information about the customer.
Phone	The phone/pager number to reach the primary contact person.
Total Customers	The total number of customers configured.
Multi-service site	
Site	Multi-service site name. A multi-service customer site is a group of SAPs with common origination and termination points.
Description	Information about a specific customer's multi-service site.
Assignment	The port ID, MDA, or card number, where the SAP's that are members of this multi- service site are defined.
I. Sched Pol	The ingress QoS scheduler policy assigned to this multi-service site.
E. Sched Pol	The egress QoS scheduler policy assigned to this multi-service site.
Service Association	
Service-ID	The ID that uniquely identifies a service.
SAP	Specifies the SAP assigned to the service.

**Sample Output**

```
*A:ALA-12# show service customer
=====
Customers
=====
Customer-ID : 1
Contact      : Manager
Description  : Default customer
Phone       : (123) 555-1212

Customer-ID : 2
Contact      : Tech Support
Description  : TiMetra Networks
Phone       : (234) 555-1212

Customer-ID : 3
Contact      : Fred
Description  : TiMetra Networks
Phone       : (345) 555-1212

Customer-ID : 6
Contact      : Ethel
Description  : Epipe Customer
Phone       : (456) 555-1212

Customer-ID : 7
Contact      : Lucy
Description  : ABC Customer
Phone       : (567) 555-1212

Customer-ID : 8
Contact      : Customer Service
Description  : IES Customer
Phone       : (678) 555-1212

Customer-ID : 274
Contact      : Mssrs. Beaucoup
Description  : ABC Company
Phone       : 650 123-4567

Customer-ID : 94043
Contact      : Test Engineer on Duty
Description  : TEST Customer
Phone       : (789) 555-1212

-----
Total Customers : 8
-----
*A:ALA-12#

*A:ALA-12# show service customer 274
=====
Customer 274
=====
Customer-ID : 274
Contact      : Mssrs. Beaucoup
Description  : ABC Company
Phone       : 650 123-4567
```

```

-----
Multi Service Site
-----
Site      : west
Description : (Not Specified)
=====
*A:ALA-12#

*A:ALA-12# show service customer 274 site west
=====
Customer  274
=====
Customer-ID : 274
Contact    : Mssrs. Beaucoup
Description : ABC Company
Phone     : 650 123-4567
-----
Multi Service Site
-----
Site      : west
Description : (Not Specified)
Assignment : Card 5
I. Sched Pol: SLA1
E. Sched Pol: (Not Specified)
-----
Service Association
-----
No Service Association Found.
=====
*A:ALA-12#

```

## egress-label

**Syntax** `egress-label egress-label1 [egress-label2]`

**Context** `show>service`

**Description** Display services 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 value that identifies a service.
Sdp Id	The value that identifies a 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
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#
```

**ingress-label**

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

**Context** show>service

**Description** This command displays 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 vprn-service-id ldp bindings** command to display dynamic labels.

**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
```

## IES Show Commands

```
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#

## sap-using

**Syntax**    **sap-using [msap] [dyn-script] [description]**  
**sap-using [sap sap-id] [vlan-translation | anti-spoof] [description]**  
**sap-using [sap sap-id]**  
**sap-using interface [ip-address | ip-int-name]**  
**sap-using [ingress | egress] atm-td-profile td-profile-id**  
**sap-using [ingress | egress] filter filter-id**  
**sap-using [ingress | egress] qos-policy qos-policy-id**  
**sap-using authentication-policy policy-name**

**Context**    show>service

**Description**    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**    **sap sap-id** — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

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

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

**ip-addr** — 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.

**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 value that identifies the service.
SapMTU	The SAP MTU value.
Ingr.QoS	The SAP ingress QoS policy number specified on the ingress SAP.
Ing.Fltr	The MAC or IP filter policy ID applied to the ingress SAP.
E.QoS	The SAP egress QoS policy number specified on the egress SAP.
Egr.Fltr	The MAC or IP 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.

### Sample Output

```
*A:ALA-48# show service sap-using sap 2/1/10:0
=====
Service Access Points Using Port 2/1/10:0
=====
PortId                SvcId      Ing.  Ing.  Egr.  Egr.  Adm  Opr
                   QoS      Fltr  QoS  Fltr
-----
2/1/10:0              13         1    none  1     none  Up   Down
-----
Number of SAPs : 1
=====

*A:ALA-48#
*A:ALA-12# show service sap-using egress atm-td-profile 2
=====
Service Access Point Using ATM Traffic Profile 2
=====
PortId      SvcId      I.QoS  I.Fltr  E.QoS  E.Fltr  A.Pol  Adm  Opr
-----
5/1/1:0/11  511111    2     none    2     none    none  Up   Up
5/1/1:0/12  511112    2     none    2     none    none  Up   Up
5/1/1:0/13  511113    2     none    2     none    none  Up   Up
5/1/1:0/14  511114    2     none    2     none    none  Up   Up
5/1/1:0/15  511115    2     none    2     none    none  Up   Up
5/1/1:0/16  511116    2     none    2     none    none  Up   Up
5/1/1:0/17  511117    2     none    2     none    none  Up   Up
5/1/1:0/18  511118    2     none    2     none    none  Up   Up
5/1/1:0/19  511119    2     none    2     none    none  Up   Up
5/1/1:0/20  511120    2     none    2     none    none  Up   Up
5/1/1:0/21  511121    2     none    2     none    none  Up   Up
5/1/1:0/22  511122    2     none    2     none    none  Up   Up
5/1/1:0/23  511123    2     none    2     none    none  Up   Up
```

## IES Show Commands

```
5/1/1:0/24 511124 2 none 2 none none Up Up
5/1/1:0/25 511125 2 none 2 none none Up Up
```

```
...
```

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



## sdp

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

**Context** show>service

**Description** This command displays SDP information. If no optional parameters are specified, a summary SDP output for all SDPs is displayed.

**Parameters** *sdp-id* — Specifies the SDP ID for which to display information.

**Default** All SDPs.

**Values** 1 — 17407

*far-end ip-address* — Displays only SDPs matching with the specified far-end IP address.

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

*detail* — Displays detailed SDP information.

**Default** SDP summary output.

*keep-alive-history* — Displays the last fifty SDP keepalive events for the SDP.

**Default** SDP summary output.

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

Label	Description
SDP Id	The SDP identifier.
Adm MTU	Specifies 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.
Opr MTU	Specifies 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.
IP address	Specifies the IP address of the remote end of the GRE or MPLS tunnel defined by this SDP.
Adm Admin State	Specifies the administrative state of the SDP.
Opr Oper State	Specifies the operational state of the SDP.
Deliver	Specifies the type of delivery used by the SDP: GRE or MPLS.
Flags	Specifies the conditions that affect the operating status of this SDP.
Signal Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on the SDP.
Last Status Change	Specifies the time of the most recent operating status change to this SDP.

**Sample Output**

```
*A:ALA-12# show service sdp
=====
Services: Service Destination Points
=====
SdpId    Adm MTU    Opr MTU    IP address    Adm  Opr        Deliver Signal
-----
10       4462      4462      10.20.1.3     Up   Dn NotReady MPLS   TLDP
40       4462      1534      10.20.1.20    Up   Up         MPLS   TLDP
60       4462      1514      10.20.1.21    Up   Up         GRE    TLDP
100      4462      4462      180.0.0.2     Down Down      GRE    TLDP
500      4462      4462      10.20.1.50    Up   Dn NotReady GRE    TLDP
-----
Number of SDPs : 5
-----
*A:ALA-12#
```

```
*A:ALA-12# show service sdp 2 detail
=====
Service Destination Point (Sdp Id : 2) Details
-----
Sdp Id 2 -(10.10.10.104)
-----
Description          : GRE-10.10.10.104
SDP Id               : 2
Admin Path MTU       : 0                      Oper Path MTU       : 0
Far End              : 10.10.10.104          Delivery            : GRE
Admin State          : Up                      Oper State          : Down
Flags                : SignalingSessDown TransportTunnDown
Signaling            : TLDP                      VLAN VC Etype      : 0x8100
Last Status Change   : 02/01/2007 09:11:39  Adv. MTU Over.     : No
Last Mgmt Change     : 02/01/2007 09:11:46

KeepAlive Information :
Admin State          : Disabled                    Oper State          : Disabled
Hello Time           : 10                      Hello Msg Len       : 0
Hello Timeout        : 5                      Unmatched Replies   : 0
Max Drop Count       : 3                      Hold Down Time      : 10
Tx Hello Msgs        : 0                      Rx Hello Msgs       : 0

Associated LSP LIST :
SDP Delivery Mechanism is not MPLS
=====
*A:ALA-12#
```

```
*A:ALA-12# show service sdp 8
=====
Service Destination Point (Sdp Id : 8)
-----
SdpId    Adm MTU    Opr MTU    IP address    Adm  Opr        Deliver Signal
-----
8        4462      4462      10.10.10.104  Up   Dn NotReady MPLS   TLDP
-----
*A:ALA-12#
=====
Service Destination Point (Sdp Id : 8) Details
=====
```

```

Sdp Id 8 -(10.10.10.104)
-----
Description          : MPLS-10.10.10.104
SDP Id               : 8
Admin Path MTU       : 0                    Oper Path MTU       : 0
Far End              : 10.10.10.104         Delivery            : MPLS
Admin State          : Up                   Oper State          : Down
Flags                : SignalingSessDown TransportTunnDown
Signaling            : TLDP                 VLAN VC Etype      : 0x8100
Last Status Change  : 02/01/2007 09:11:39 Adv. MTU Over.     : No
Last Mgmt Change     : 02/01/2007 09:11:46
KeepAlive Information :
Admin State          : Disabled              Oper State          : Disabled
Hello Time           : 10                   Hello Msg Len      : 0
Hello Timeout        : 5                   Unmatched Replies  : 0
Max Drop Count       : 3                   Hold Down Time     : 10
Tx Hello Msgs        : 0                   Rx Hello Msgs     : 0

Associated LSP LIST :
Lsp Name             : to-104
Admin State          : Up                   Oper State          : Down
Time Since Last Tran* : 01d07h36m
=====
* indicates that the corresponding row element may have been truncated.
*A:ALA-12#

```

When network domains are configured, the SDP egress interface state can be verified by using the following command:

```

*A:Dut-T# show service sdp egressifs
=====
SDP Egress Ifs State Table
=====
SDP Id          Network Domain          State
-----
100             net1                       consistent
-----
SDPs : 1
=====
*A:Dut-Tr#

```

## sdp-using

**Syntax** `sdp-using [sdp-id[:vc-id] | far-end ip-address]`

**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* — Displays information about 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.

**Output Show Service SDP Using X** — The following table describes show service sdp-using output fields.

Label	Description
Svc ID	The service identifier.
Sdp ID	The SDP identifier.
Type	Type of SDP: spoke or mesh.
Far End	The far-end address of the SDP.
Oper State	The operational state of the service.
I.Label	The label used by the far-end device to send packets to this device in this service by this SDP.
E.Label	The label used by this device to send packets to the far-end device in this service by this SDP.

**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#
```

## service-using

**Syntax** `service-using [ies] [customer customer-id]`

**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** `ies` — Displays matching IES 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 an customer.

**Values** 1 — 2147483647

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

Label	Description
Service Id	The value that identifies the service.
Type	Specifies the service type configured for the service ID.
Adm	The administrative state of the service.
Opr	The operating state of the service.
CustomerID	The ID of the customer who owns this service.
Last Mgmt Change	The date and time of the most recent management-initiated change to this service.

### Sample Output

```
A:ALA-48# show service service-using ies
=====
Services [ies]
=====
ServiceId   Type    Adm    Opr    CustomerId    Last Mgmt Change
-----
88          IES     Up     Down   8              07/25/2006 15:46:28
89          IES     Up     Down   8              07/25/2006 15:46:28
104         IES     Up     Down   1              07/25/2006 15:46:28
200         IES     Up     Down   1              07/25/2006 15:46:28
214         IES     Up     Down   1              07/25/2006 15:46:28
321         IES     Up     Down   1              07/25/2006 15:46:28
322         IES     Down   Down   1              07/25/2006 15:46:28
1001        IES     Up     Down   1730           07/25/2006 15:46:28
-----
Matching Services : 8
```

-----  
A:ALA-48#

## subscriber-using

- Syntax** **subscriber-using** [**service-id** *service-id*] [**sap-id** *sap-id*] [**interface** *ip-int-name*] [**ip** *ip-address*[/*mask*]] [**mac** *ieee-address*] [**sub-profile** *sub-profile-name*] [**sla-profile** *sla-profile-name*]
- Context** show>service>subscriber-using
- Description** This command displays subscribers using certain options.
- Parameters** **service-id** *service-id* — Display subscriber information about the specified service ID.
- Values** 1 — 2147483648
- sap-id** *sap-id* — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.
- interface** *ip-int-name* — Display subscriber information about the specified interface.
- ip** *ip-address*[/*mask*] — Display subscriber information about the specified IP address.
- mac** *ieee-address* — Display subscriber information about the specified MAC address.
- sub-profile** *sub-profile-name* — Display subscriber information about the specified subscriber profile name.
- sla-profile** *sla-profile-name* — Display subscriber information about the specified SLA profile name.

## id

- Syntax** **id** *service-id* {**all** | **arp** | **base** | **sap** | **sdp**}
- Context** show>service
- Description** This command displays information for a particular service-id.
- Parameters** *service-id* — The unique service identification number to identify the service in the service domain.
- all** — Display detailed information about the service.
- arp** — Display ARP entries for the service.
- arp-host** — Displays ARP host related information.
- base** — Display basic service information.
- interface** — Display service interfaces.
- sap** — Display SAPs associated to the service.
- sdp** — Display SDPs associated with the service.

all

**Syntax** all

**Context** show>service>id

**Description** This command displays detailed information for all aspects of the service.

**Output** **Show All Service-ID Output** — The following table describes the show all service-id command output fields:

Label	Description
Service Detailed Information	
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.
Service Destination Points (SDPs)	
SDP Id	The SDP identifier.
Type	Indicates whether this Service SDP binding is a spoke or a mesh.
Admin Path MTU	The 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.
Ingress Label	The label used by the far-end device to send packets to this device in this service by this SDP.

Label	Description (Continued)
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.
Signaling	Specifies the signaling protocol used to obtain the ingress and egress labels used in frames transmitted and received on this SDP.
Admin State	Specifies the operating status of the service.
Oper State	The current status of the service.
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.
<b>Service Access Points</b>	
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	The value of the label used to identify this SAP on the access port.
Admin State	The desired state of the SAP.
Oper State	The operating state of the SAP.
Last Changed	The date and time of the last change.



Label	Description (Continued)
Admin MTU	The 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.
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.
<b>SAP Statistics</b>	
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.
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.
<b>Queuing Stats</b>	
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.

Label	Description (Continued)
<b>SAP per Queue stats</b>	
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.
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.
<b>IPCP Address Extension Details</b>	
In profile dropped	The number of in-profile packets or octets dropped for the SAP.
Peer IP Addr	Specifies the remote IP address to be assigned to the far-end of the associated PPP/MLPPP link via IPCP extensions.
Peer Pri DNS Addr	Specifies a unicast IPv4 address for the primary DNS server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions.
Peer Sec DNS Addr	Specifies a unicast IPv4 address for the secondary DNS server to be signaled to the far-end of the associate PPP/MLPPP link via IPCP extensions. (optional)

**Sample Output**

The following is a part of a sample output relevant to PW SAPs:

```
*A:Dut-B# show service id 3 all
...
-----
SAP pw-3:3
-----
Service Id      : 3
SAP             : pw-3:3           Encap           : q-tag
Description    : (Not Specified)
Admin State    : Up               Oper State      : Up
Flags          : None
Multi Svc Site : None
Last Status Change : 02/03/2015 18:04:39
```

```

Last Mgmt Change   : 02/03/2015 18:04:13
Sub Type           : regular
Split Horizon Group: (Not Specified)
Admin MTU          : 1518
Ingr IP Fltr-Id   : n/a
Ingr Mac Fltr-Id  : n/a
Ingr IPv6 Fltr-Id : n/a
tod-suite         : None
Endpoint           : N/A

Oper MTU           : 1518
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

Vlan-translation  : None
Acct. Pol         : None
Application Profile: None
Transit Policy    : None
Oper Group        : (none)
Host Lockout Plcy : n/a
Ignore Oper Down  : Disabled
Lag Link Map Prof : (none)
Cflowd           : Disabled

Collect Stats     : Disabled

Monitor Oper Grp  : (none)

```

```

-----
...

```

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

```

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

```

```

Service Id       : 1
Service Type     : IES
Name             : (Not Specified)
Description      : (Not Specified)
Customer Id      : 1
Creation Origin  : manual
Last Status Change: 01/28/2015 22:17:56
Last Mgmt Change : 01/28/2015 22:10:04
Admin State      : Up
Oper State       : Up
SAP Count        : 0
SDP Bind Count   : 1
Vpn Id           : 0

```

```

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

```

```
Tunnel Faults      : ignore
```

```

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

```

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

```

-----
Description      : (Not Specified)
SDP Id           : 230:1
Spoke Descr      : (Not Specified)
VC Type          : Ether
Admin Path MTU   : 0
Delivery         : MPLS
Far End          : 10.20.1.3
Tunnel Far End   : n/a
Hash Label       : Disabled

Type             : Spoke
VC Tag          : n/a
Oper Path MTU    : 1582
LSP Types       : SR-ISIS
Hash Lbl Sig Cap : Disabled

```

## IES Show Commands

```
Oper Hash Label      : Disabled

Admin State          : Up
Acct. Pol            : None
Ingress Label        : 262133
Ingr Mac Fltr-Id    : n/a
Ingr IP Fltr-Id     : n/a
Ingr IPv6 Fltr-Id   : n/a
BGP IPv4 FlowSpec   : Disabled
BGP IPv6 FlowSpec   : Disabled
Admin ControlWord    : Not Preferred
BFD Template         : None
BFD-Enabled          : no
Last Status Change   : 01/28/2015 22:17:56
Last Mgmt Change     : 01/28/2015 22:16:50
Class Fwding State   : Down
Flags                : None
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         : 262133
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

Application Profile: None
Transit Policy        : None
AARP Id               : None

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.         : 3
I. Dro. Pkts.         : 0
I. Dro. Octs.         : 0
E. Fwd. Octets        : 180

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

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

Number of SDPs : 1

Service Access Points

No Sap Associations

Service Interfaces

Interface

```
-----  
If Name              : iesSpokeToC  
Admin State          : Up                    Oper (v4/v6)        : Up/Down  
Protocols            : None  
IP Addr/mask         : 20.20.20.2/24      Address Type        : Primary  
IGP Inhibit         : Disabled           Broadcast Address   : Host-ones  
HoldUp-Time         : 0                  Track Srrp Inst    : 0  
Description          : N/A  
-----
```

Details

```
-----  
Description          : (Not Specified)  
If Index             : 4                    Virt. If Index      : 4  
Last Oper Chg       : 01/28/2015 22:17:56 Global If Index     : 257  
Mon Oper Grp        : None  
Srrp En Rtng        : Disabled            Hold time           : N/A  
SDP Id              : spoke-230:1  
-----
```

Spoke-SDP Details

```
Admin State          : Up                    Oper State          : Up  
Hash Label           : Disabled            Hash Lbl Sig Cap    : Disabled  
Oper Hash Label      : Disabled  
Peer Fault Ip        : None  
Local Pw Bits        : None  
Peer Pw Bits         : None  
Peer Vccv CV Bits    : lspPing bfdFaultDet  
Peer Vccv CC Bits    : mplsRouterAlertLabel  
Flags                : None  
-----
```

```
TOS Marking          : Untrusted            If Type             : IES  
SNTP B.Cast          : False                IES ID              : 1  
MAC Address          : 00:03:fa:32:16:62   Mac Accounting      : Disabled  
Ingress stats        : Disabled            IPv6 DAD            : Enabled  
TCP MSS V4           : 0                    TCP MSS V6          : 0  
Arp Timeout          : 14400s              IPv6 Nbr ReachTime : 30s  
-----
```

## IES Show Commands

```
Arp Retry Timer      : 5000ms
IP Oper MTU          : 1500
Arp Populate         : Disabled
Cflowd (unicast)    : None
LdpSyncTimer        : None
LSR Load Balance     : system
EGR Load Balance     : both
TEID Load Balance   : Disabled
SPI Load Balance     : Disabled
uRPF Chk            : disabled
uRPF Ipv6 Chk       : disabled
PTP HW Assist       : Disabled
Rx Pkts             : 0
Rx V4 Pkts          : N/A
Rx V6 Pkts          : N/A
Tx Pkts             : 3
Tx V4 Pkts          : 0
Tx V4 Discard Pkts : 0
Tx V6 Pkts          : 0
Tx V6 Discard Pkts : 0

ICMP Mask Reply     : True
Host Conn Verify    : Disabled
Cflowd (multicast) : None

Rx Bytes            : 0
Rx V4 Bytes         : N/A
Rx V6 Bytes         : N/A
Tx Bytes            : 180
Tx V4 Bytes         : 0
Tx V4 Discard Byt* : 0
Tx V6 Bytes         : 0
Tx V6 Discard Byt* : 0

Proxy ARP Details
Rem Proxy ARP       : Disabled
Policies            : none

Local Proxy ARP     : Disabled

Proxy Neighbor Discovery Details
Local Pxy ND        : Disabled
Policies            : none

DHCP no local server

DHCP Details
Description         : (Not Specified)
Admin State         : Down
Lease Populate      : 0
Gi-Addr            : 20.20.20.2*
Gi-Addr as Src Ip  : Disabled
* = inferred gi-address from interface IP address

Action              : Keep
Trusted              : Disabled

DHCP Proxy Details
Admin State         : Down
Lease Time          : N/A
Emul. Server        : Not configured

Subscriber Authentication Details
Auth Policy         : None

DHCP6 Relay Details
Description         : (Not Specified)
Admin State         : Down
Lease Populate      : 0
Oper State          : Down
Nbr Resolution      : Disabled
If-Id Option        : None
Remote Id           : Disabled
Src Addr            : Not configured
Python plcy         : (Not Specified)

DHCP6 Server Details
Admin State         : Down
Max. Lease States   : 8000

ISA Tunnel redundant next-hop information
Static Next-Hop     :
Dynamic Next-Hop    :
```

```
ICMP Details
Redirects      : Number - 100                Time (seconds) - 10
Unreachables  : Number - 100                Time (seconds) - 10
TTL Expired   : Number - 100                Time (seconds) - 10
```

```
IPCP Address Extension Details
Peer IP Addr   : Not configured
Peer Pri DNS Addr : Not configured
Peer Sec DNS Addr : Not configured
```

```
Network Domains Associated
default
```

```
-----
Admin Groups
-----
```

```
No Matching Entries
-----
```

```
-----
Srlg Groups
-----
```

```
No Matching Entries
-----
```

```
-----
QoS Queue-Group Redirection Details
-----
```

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

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

```
*A:Dut-B#
```

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

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

```
Service Id       : 1                Vpn Id          : 1
Service Type     : IES
Name             : XYZ Ies 1
Description      : default
Customer Id      : 1                Creation Origin  : manual
Last Status Change: 05/27/2015 07:15:06
Last Mgmt Change  : 05/27/2015 07:14:43
Admin State      : Up                Oper State       : Up
SAP Count        : 0                SDP Bind Count  : 1
```

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

```
Tunnel Faults    : ignore
-----
```

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

```
Sdp Id 6:1 - (10.20.1.1)
```

## IES Show Commands

```

-----
Description      : Default sdp description
SDP Id           : 6:1                               Type           : Spoke
Spoke Descr     : (Not Specified)
VC Type         : Ether                               VC Tag         : n/a
Admin Path MTU  : 1514                               Oper Path MTU  : 1514
Delivery        : MPLS
Far End         : 10.20.1.1
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  : 262133                           Egress Label   : 262134
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
BGP IPv4 FlowSpec : Disabled
BGP IPv6 FlowSpec : Disabled
Admin ControlWord : Not Preferred                 Oper ControlWord : False
BFD Template   : None
BFD-Enabled    : no                               BFD-Encap     : ipv4
Last Status Change : 05/27/2015 07:15:06         Signaling     : TLDP
Last Mgmt Change  : 05/27/2015 07:14:43
Class Fwding State : Down
Flags          : None
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
AARP Id        : None

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       : Enabled                       Oper State       : Alive
Hello Time       : 10                            Hello Msg Len    : 0
Max Drop Count   : 3                             Hold Down Time   : 10

Statistics       :
I. Fwd. Pkts.    : 100                           I. Dro. Pkts.    : 0
I. Fwd. Octs.    : 61300                          I. Dro. Octs.    : 0
E. Fwd. Pkts.    : 15                             E. Fwd. Octets   : 900

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

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

```





## IES Show Commands

```
Hash Label      : Disabled          Hash Lbl Sig Cap : Disabled
Oper Hash Label : Disabled
Peer Fault Ip   : None
Local Pw Bits   : None
Peer Pw Bits    : None
Peer Vccv CV Bits : lspPing bfdFaultDet
Peer Vccv CC Bits : mplsRouterAlertLabel
Flags           : None

TOS Marking     : Untrusted         If Type          : IES
SNTP B.Cast    : False             IES ID           : 1
MAC Address     : 66:34:ff:00:00:00 Mac Accounting    : Disabled
Ingress stats  : Disabled          IPv6 DAD         : Enabled
TCP MSS V4     : 0                 TCP MSS V6       : 0
ARP Timeout    : 14400s            IPv6 Nbr ReachTime: 30s
ARP Retry Timer : 5000ms            IPv6 stale time  : 14400s
ARP Limit      : Disabled          IPv6 Nbr Limit   : Disabled
ARP Threshold  : Disabled          IPv6 Nbr Threshold: Disabled
ARP Limit Log Only: Disabled       IPv6 Nbr Log Only : Disabled
IP MTU         : 1400
IP Oper MTU    : 1400              ICMP Mask Reply  : True
ARP Populate   : Disabled          Host Conn Verify : Disabled
SHCV pol IPv4  : None
Cflowd (unicast) : None           Cflowd (multicast): None
LdpSyncTimer   : None
LSR Load Balance : system
EGR Load Balance : both
Vas If Type    : none
TEID Load Balance : Disabled
SPI Load Balance : Disabled
uRPF Chk      : disabled
uRPF Ipv6 Chk : disabled
PTP HW Assist  : Disabled
Rx Pkts       : 100                Rx Bytes         : 62236
Rx V4 Pkts    : N/A                Rx V4 Bytes      : N/A
Rx V6 Pkts    : N/A                Rx V6 Bytes      : N/A
Tx Pkts       : 15                 Tx Bytes         : 900
Tx V4 Pkts    : 0                  Tx V4 Bytes      : 0
Tx V4 Discard Pkts: 0            Tx V4 Discard Byt*: 0
Tx V6 Pkts    : 0                  Tx V6 Bytes      : 0
Tx V6 Discard Pkts: 0            Tx V6 Discard Byt*: 0
Mpls Rx Pkts  : 0                  Mpls Rx Bytes    : 0
Mpls Tx Pkts  : 0                  Mpls Tx Bytes    : 0

Proxy ARP Details
Rem Proxy ARP : Disabled          Local Proxy ARP  : Disabled
Policies      : none

Proxy Neighbor Discovery Details
Local Pxy ND  : Disabled
Policies      : none

DHCP no local server

DHCP Details
Description   : (Not Specified)
Admin State   : Down              Lease Populate   : 0
Gi-Addr       : 10.3.1.3*         Gi-Addr as Src Ip : Disabled
* = inferred gi-address from interface IP address

Action        : Keep              Trusted          : Disabled
```

DHCP Proxy Details

Admin State : Down  
Lease Time : N/A  
Emul. Server : Not configured

Subscriber Authentication Details

Auth Policy : None

DHCP6 Relay Details

Description : (Not Specified)  
Admin State : Down  
Oper State : Down  
If-Id Option : None  
Src Addr : Not configured  
Python plcy : (Not Specified)  
Lease Populate : 0  
Nbr Resolution : Disabled  
Remote Id : Disabled

DHCP6 Server Details

Admin State : Down  
Max. Lease States : 8000

ISA Tunnel redundant next-hop information

Static Next-Hop :  
Dynamic Next-Hop :

ICMP Details

Redirects	: Number - 100	Time (seconds)	- 10
Unreachables	: Number - 100	Time (seconds)	- 10
TTL Expired	: Number - 100	Time (seconds)	- 10

IPCP Address Extension Details

Peer IP Addr : Not configured  
Peer Pri DNS Addr : Not configured  
Peer Sec DNS Addr : Not configured

Network Domains Associated

default

-----  
Admin Groups  
-----

No Matching Entries  
-----

-----  
Srlg Groups  
-----

No Matching Entries  
-----

-----  
QoS Queue-Group Redirection Details  
-----

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

=====  
\* indicates that the corresponding row element may have been truncated.  
\*B:Dut-C#

## arp

**Syntax** `arp [ip-address] | [mac ieee-address] | [sap sap-id] | [interface ip-int-name] [sdp sdp-id:vc-id]`

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

**Description** Displays the ARP table for the IES instance. The ARP entries are displayed uniquely. Each MAC associated with the child group-interfaces are displayed with each ARP entry. They do not reflect actual ARP entries but are displayed along the interfaces ARP entry for easy lookup.

**Parameters** *ip-address* — Displays only ARP entries in the ARP table with the specified IP address.

**Default** All IP addresses.

**mac ieee-address** — Displays only ARP entries in the ARP table with the specified 48-bit MAC address. The MAC address can be expressed 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. See Common CLI Command Descriptions on page 847 for command syntax.

*port-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.

*sdp-id* — The SDP identifier.

*vc-id* — The virtual circuit identifier.

**Values** 1 — 4294967295

**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. OAM — Entries created by the OAM 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.

### Sample Output

A:ALA-49# show service id 88 arp

=====  
ARP Table  
=====

IP Address	MAC Address	Type	Expiry	Interface	SAP
11.30.1.1	76:1e:ff:00:01:41	Other	00h00m00s	ies30	lag-1:30
11.31.1.1	76:1e:ff:00:01:41	Other	00h00m00s	ies30	lag-1:30
11.37.1.1	00:00:00:00:00:00	Other	00h00m00s	foo2	n/a
11.20.1.1	76:1e:ff:00:00:00	Other	00h00m00s	s2	subscrib*
	76:1e:ff:00:01:41			g3	lag-1
11.20.1.10	00:00:aa:aa:aa:dd	Managed	00h00m00s	g3	lag-1:11
11.20.1.11	00:00:aa:aa:aa:dd	Managed	00h00m00s	g3	lag-1:11
11.20.1.12	00:00:aa:aa:aa:dd	Managed	00h00m00s	g3	lag-1:11
11.38.1.1	76:1e:ff:00:00:00	Other	00h00m00s	s3	subscrib*
	76:21:04:01:00:01			g5	4/1/1
	76:21:04:01:00:01			g7	4/1/1
11.39.1.1	76:1e:ff:00:00:00	Other	00h00m00s	s3	subscrib*
	76:21:04:01:00:01			g5	4/1/1
	76:21:04:01:00:01			g7	4/1/1
11.38.1.2	76:22:07:01:00:01	Managed	00h00m00s	g7	4/1/1:25*
11.38.10.1	76:22:07:01:00:01	Managed	00h00m00s	g7	4/1/1:25*
11.38.99.1	76:22:07:01:00:01	Managed	00h00m00s	g7	4/1/1:25*

=====  
\* indicates that the corresponding row element may have been truncated.

A:ALA-49#

## 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
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#

```

## statistics

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

**Context** show>service>id>authentication

**Description** Displays session authentication statistics for this service.

**Parameters** **policy name** — Specifies the subscriber authentication policy statistics to display.

**sap sap-id** — Specifies the SAP ID statistics to display. See Common CLI Command Descriptions on page 847 for command syntax.

See Common CLI Command Descriptions on page 847 for command syntax.

### Sample Output

```

*A:ALA-1# show service id 11 authentication statistics
-----

```

## IES Show Commands

```
Authentication statistics
-----
Interface / SAP                Authentication Successful  Authentication Failed
-----
abc-11-90.1.0.254             1582                      3
-----
Number of entries: 1
=====
*A:ALA-1#
```

## authentication

**Syntax** authentication

**Context** show>service>id

**Description** This command enables the context to display subscriber authentication information.

## base

**Syntax** base

**Context** show>service>id

**Description** This command displays basic information about this IES service.

### Sample Output

```
*A:ALA-A# show service id 100 base
-----
Service Basic Information
-----
Service Id       : 100                Vpn Id           : 100
Service Type     : IES
Description      : Default Ies description for service id 100
Customer Id      : 1
Last Status Change: 08/29/2006 17:44:28
Last Mgmt Change : 08/29/2006 17:44:28
Admin State      : Up                 Oper State        : Up
SAP Count        : 2
-----
Service Access & Destination Points
-----
Identifier                Type      AdmMTU  OprMTU  Adm   Opr
-----
sap:1/1/3                 null      1514    1514    Up    Up
sap:1/1/4                 null      1514    1514    Up    Up
=====
*A:ALA-A#
```

## dhcp



**Syntax** `dhcp`

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

**Description** 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 847 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      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
```

## IES Show Commands

```
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 LifeTime	Lease Origin	MC 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

```

## IES Show Commands

```
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 847 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.

## 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.

Label	Description (Continued)
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#
```

## gsmp

**Syntax** gsmp

**Context** show>service>id

**Description** This command enables the context to display 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.  
*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 is unique only 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.

### Sample Output

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
```

```
=====
```

## IES Show Commands

```
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 (VPRN), 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

**Context** show>service>id

**Description** Displays static hosts configured for this IES service.

**Output** **Show All Service-ID Output** — The following table describes the show all service-id 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.

## Sample Output

```
*A:ALA-48# show service id 88 host
=====
Static Hosts for service 88
=====
Sap          IP Address    Configured MAC  Dynamic MAC
Subscriber                                       Fwding state
-----
1/2/4:50/5   143.144.145.1  N/A             N/A
N/A                                       Fwding
-----
Number of static hosts : 1
=====
*A:ALA-48#
```

## host-connectivity-verify

**Syntax** **host-connectivity-verify statistics** [sap *sap-id*]

**Context** show>service>id

**Description** Displays host connectivity check statistics.

**Parameters** **statistics** — Displays host connectivity verification data.  
**sap *sap-id*** — See Common CLI Command Descriptions on page 847 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.
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  551/2/3:0  143.144.145.1
=====
A:ALA-48>show>service>id#
```

## interface

**Syntax** **interface** [*ip-address* | *ip-int-name*] [*interface-type*] [**detail**] [**family**]

**Context** show>service>id

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

**Parameters** *ip-address* — The IP address of the interface for which to display information.

**Values**    ipv4-address:    a.b.c.d (host bits must be 0)  
               ipv6-address:    x:x:x:x:x:x:x (eight 16-bit pieces)

x:x:x:x:x.d.d.d  
 x: [0 — FFFF]H  
 d: [0 — 255]

*ip-int-name* — Specifies the IP interface name for which to display information.

**Values** 32 characters maximum

**family** — Displays the router IP interface table to display.

**Values** **ipv4** — Displays only those peers that have the IPv4 family enabled.  
**ipv6** — Displays the peers that are IPv6-capable.

*interface-type* — Specifies to display either group or interfaces.

**Values** group, subscriber

**detail** — Displays detailed IP interface information.

**Default** IP interface summary output.

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

Label	Description
If Name	The name used to refer to the IES interface.
Type	Specifies the interface type.
IP-Address	Specifies the IP address/IP subnet/broadcast address of the interface.
Adm	The administrative state of the interface.
Opr	The operational state of the interface.
Admin State	The administrative state of the interface.
Oper State	The operational state of the interface.
IP Addr/mask	Specifies the IP address/IP subnet/broadcast address of the interface.
If Index	The index corresponding to this IES interface. The primary index is 1; all IES interfaces are defined in the base virtual router context.
If Type	Specifies the interface type.
SAP Id	Specifies the SAP's port ID.
SNTP B.Cast	Specifies whether SNTP broadcast client mode is enabled or disabled.
Arp Timeout	Specifies the timeout for an ARP entry learned on the interface.
MAC Address	Specifies the 48-bit IEEE 802.3 MAC address.
ICMP Mask Reply	Specifies whether ICMP mask reply is enabled or disabled.
Cflowd	Specifies whether Cflowd collection and analysis on the interface is enabled or disabled.

Label	Description (Continued)
Redirects	Specifies the rate for ICMP redirect messages.
Unreachables	Specifies the rate for ICMP unreachable messages.
TTL Expired	Specifies the rate for ICMP TTL messages.

**Sample Output**

```
A:ALA-49# show service id 88 interface
=====
Interface Table
=====
Interface-Name          Adm      Opr (v4/v6)  Type      Port/SapId
  IP-Address            PfxState
-----
Sector A                Up       Down/Down   IES       1/1/1.2.2
-
test                    Up       Down/Down   IES       1/1/2:0
  1.1.1.1/31            n/a
  1.1.1.1/31            n/a
  1.1.2.1/31            n/a
test27                  Up       Up/--       IES Sub   subscriber
  192.168.10.21/24      n/a
grp-if                  Up       Down/--     IES Grp   1/2/2
Interfaces : 4
=====
A:ALA-49#
```

labels

**Syntax** labels

**Context** show>service>id

**Description** Displays the labels being used by the service.

**Output** **Show Service-ID Labels** — The following table describes show service-id labels output fields:

Label	Description
Svc Id	The service identifier.
Sdp Id	The SDP identifier.
Type	Indicates whether the SDP 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.

## 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#
```

## sdp

**Syntax** **sdp sdp-id pw-port [pw-port-id]**  
**sdp sdp-id pw-port**  
**sdp sdp-id pw-port [pw-port-id] [statistics]**  
**sdp [consistent | inconsistent | na] egressifs**  
**sdp sdp-id keep-alive-history**  
**sdp far-end ip-address | ipv6-address keep-alive-history**  
**sdp [sdp-id] detail**  
**sdp far-end ip-address | ipv6-address detail**

**Context** show>service>sdp

**Description** 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* — Specifies the SDP ID for which to display information.

**Default** All SDPs.

**Values** 1 — 17407

*pw-port-id* — Specifies the pseudo-wire port identifier.

**Values** 1 — 10239

**far-end ip-address** — Displays only SDPs matching with the specified far-end IP address.

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

**detail** — Displays detailed SDP information.

**Default** SDP summary output.

**keep-alive-history** — Displays the last fifty SDP keepalive events for the SDP.

**Default** SDP summary output.

**Sample Output**

```
*A:ALA-12>config>service# show service sdp 1 pw-port
=====
Service Destination Point (sdp Id 1 Pw-Port)
=====
Pw-port   VC-Id   Adm     Encap    Opr     VC Type   Egr      Monitor
          Shaper  Oper
          VPort  Group
-----
1         1       up      dot1q    up      ether
2         2       up      qinq     up      ether
3         3       up      dot1q    up      ether
4         4       up      qinq     up      ether
-----
Entries found : 4
=====
```

```
*A:ALA-12>config>service# show service sdp 1 pw-port 3
=====
Service Destination Point (Sdp Id 1 Pw-Port 3)
=====
SDP Binding port   : lag-1
VC-Id              : 3                Admin Status       : up
Encap              : dot1q             Oper Status        : up
VC Type            : ether
Oper Flags         : (Not Specified)
Monitor Oper-Group : (Not Specified)
=====
```

```
*A:ALA-12>config>service# show service sdp 1 pw-port 3 statistics
=====
Service Destination Point (Sdp Id 1 Pw-Port 3)
=====
SDP Binding port   : lag-1
VC-Id              : 3                Admin Status       : up
Encap              : dot1q             Oper Status        : up
VC Type            : ether
Oper Flags         : (Not Specified)
Monitor Oper-Group : (Not Specified)

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
=====
```

```
*A:Dut-B# show service sdp
=====
Services: Service Destination Points
=====
SdpId  AdmMTU  OprMTU  Far End          Adm  Opr      Del  LSP  Sig
-----
230    0       1582    10.20.1.3       Up   Up       MPLS I    TLDP
-----
Number of SDPs : 1
```

-----  
Legend: R = RSVP, L = LDP, B = BGP, M = MPLS-TP, n/a = Not Applicable  
=====

\*A:Dut-B#

\*A:Dut-B# show service sdp detail

-----  
Services: Service Destination Points Details  
=====

Sdp Id 230 -10.20.1.3  
-----

Description	: (Not Specified)		
SDP Id	: 230	SDP Source	: manual
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
Admin State	: Up	Oper State	: Up
Signaling	: TLDP	Metric	: 0
Acct. Pol	: None	Collect Stats	: Disabled
Last Status Change	: 01/28/2015 22:00:07	Adv. MTU Over.	: No
Last Mgmt Change	: 01/28/2015 21:59:53	VLAN VC Etype	: 0x8100
Bw BookingFactor	: 100	PBB Etype	: 0x88e7
Oper Max BW(Kbps)	: 0	Avail BW(Kbps)	: 0
Net-Domain	: default	Egr Interfaces	: Consistent
Flags	: None		

Mixed LSP Mode Information :

Mixed LSP Mode	: Disabled	Active LSP Type	: SR-ISIS
----------------	------------	-----------------	-----------

KeepAlive Information :

Admin State	: Disabled	Oper State	: Disabled
Hello Time	: 10	Hello Msg Len	: 0
Hello Timeout	: 5	Unmatched Replies	: 0
Max Drop Count	: 3	Hold Down Time	: 10
Tx Hello Msgs	: 0	Rx Hello Msgs	: 0

Src B-MAC LSB	: <none>	Ctrl PW VC ID	: <none>
Ctrl PW Active	: n/a		

-----  
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
-----
ISIS                : enabled                LSP Id           : 524289
Oper Instance Id    : 0
-----
Number of SDPs : 1
=====
*A:Dut-B#

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

=====
Services: Service Destination Points
=====
SdpId  AdmMTU  OprMTU  Far End          Adm  Opr          Del   LSP   Sig
-----
230    0       1582   10.20.1.3       Up   Up           MPLS  O     TLDP
-----
Number of SDPs : 1
-----
Legend: R = RSVP, L = LDP, B = BGP, M = MPLS-TP, n/a = Not Applicable
       I = SR-ISIS, O = SR-OSPF
=====

*A:Dut-B>config>service>sdp# show service sdp 230 detail

=====
Service Destination Point (Sdp Id : 230) Details
=====
-----
Sdp Id 230  -10.20.1.3
-----
Description                : (Not Specified)
SDP Id                     : 230                SDP Source        : manual
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

Admin State                : Up                Oper State        : Up
Signaling                  : TLDP                Metric            : 0
Acct. Pol                  : None                Collect Stats     : Disabled
Last Status Change        : 05/27/2015 06:59:46  Adv. MTU Over.   : No
Last Mgmt Change          : 05/27/2015 06:59:46  VLAN VC Etype    : 0x8100
Bw BookingFactor          : 100                PBB Etype         : 0x88e7
Oper Max BW(Kbps)         : 0                Avail BW(Kbps)   : 0
Net-Domain                 : default            Egr Interfaces    : Consistent
Flags                      : None

Mixed LSP Mode Information :
Mixed LSP Mode             : Disabled            Active LSP Type   : SR-OSPF

KeepAlive Information :
Admin State                : Disabled            Oper State        : Disabled
Hello Time                 : 10                Hello Msg Len     : 0
Hello Timeout              : 5                Unmatched Replies : 0

```



```

Max Drop Count      : 3                Hold Down Time    : 10
Tx Hello Msgs      : 0                Rx Hello Msgs     : 0

Src B-MAC LSB       : <none>          Ctrl PW VC ID     : <none>
Ctrl PW Active      : n/a

-----
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

=====
*A:Dut-B>config>service>sdp#

```

## pw-port

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

**Context** show>pw-port

**Description** Displays pseudo-wire port information.

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

**Parameters** *pw-port-id* — Specifies the pseudo-wire port identifier.

**Values** 1 — 10239

**detail** — Displays detailed port information that includes all the **pw-port** output fields.

**sdp** *sdp-id* — The SDP ID for which to display matching PW port information.

**Values** 1 — 17407

**Output Show PW-Port** — The following table describes **show pw-port** output fields:

Label	Description
PW Port	The PW Port identifier.
Encap	The encapsulation type of the PW Port.
SDP	The SDP identifier.
IfIndex	The interface index used for the PW Port.
VC-Id	The Virtual Circuit identifier.
Description	The description string for the PW Port.

**Sample Output**

```
*A:ALA-48>config>service# show pw-port

=====
PW Port Information
=====
PW Port   Encap      SDP      IfIndex      VC-Id
-----
1         dot1q      1        1526726657   1
2         qinq      1        1526726658   2
3         dot1q      1        1526726659   3
4         qinq      1        1526726660   4
=====

*A:ALA-48>config>service# show pw-port 3

=====
PW Port Information
=====
PW Port   Encap      SDP      IfIndex      VC-Id
-----
3         dot1q      1        1526726659   3
=====

*A:ALA-48>config>service# show pw-port 3 detail

=====
PW Port Information
=====
PW Port      : 3
Encap        : dot1q
SDP          : 1
IfIndex      : 1526726659
VC-Id       : 3
Description  : 1-Gig Ethernet dual fiber
=====

*A:ALA-48>config>pw-port$ show pw-port sdp none

=====
PW Port Information
=====
PW Port   Encap      SDP      IfIndex      VC-Id
-----
```

```
5          dot1q          1526726661
```

```
=====
```

```
*A:ALA-48>config>pw-port$ show pw-port sdp 1
```

```
=====
```

```
PW Port Information
```

```
=====
```

PW Port	Encap	SDP	IfIndex	VC-Id
1	dot1q	1	1526726657	1
2	qinq	1	1526726658	2
3	dot1q	1	1526726659	3
4	qinq	1	1526726660	4

```
=====
```

sap

**Syntax** `sap sap-id [detail]`

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

**Description** 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-id* — The ID that displays SAPs for the service in the *slot/mda/port[.channel]* format. See Common CLI Command Descriptions on page 847 for command syntax.

**detail** — Displays detailed information for the SAP.

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

Label	Description
Service Id	The service identifier.
SAP	The type of SAP.
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 desired 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.

Label	Description (Continued)
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 statistics collection is enabled.
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, offered by the Pchip to the Qchip.
Dro. HiPrio	The number of high priority packets and octets, as determined by the SAP ingress QoS policy, dropped by the Qchip 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 by the Qchip due to: MBS exceeded, buffer pool limit exceeded, etc.
For. InProf	The number of in-profile packets and octets (rate below CIR) forwarded by the ingress Qchip.
For. OutProf	The number of out-of-profile packets and octets (rate below CIR) forwarded by the ingress Qchip.
Dro. InProf	The number of in-profile packets and octets discarded by the egress Qchip due to MBS exceeded, buffer pool limit exceeded, etc.
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 OAM operational status of the VCL.
AAL-5 Encap	The AAL-5 encapsulation type.
Mult Svc Site	Specifies the customer's multi-service-site name.
I. Sched Pol	The ingress scheduler policy applied to the customer's multi-service-site.
E. Sched Pol	The egress scheduler policy applied to the customer's multi-service-site.

**Sample Output**

```

A:ALA-49# show service id 88 sap 771/1/1.2.2
=====
Service Access Points(SAP)
=====
Service Id      : 88
SAP             : 1/1/1.2.2          Encap           : bcpNull
Admin State    : Up                 Oper State      : Down
Flags          : PortOperDown
                SapEgressQoSMismatch
Last Status Change : 06/06/2006 08:22:07
Last Mgmt Change  : 06/06/2006 14:15:58
Admin MTU       : 1518              Oper MTU        : 1518
Ingress qos-policy : 2              Egress qos-policy : 1020
Shared Q plcy   : default           Multipoint shared : Enabled
Ingress Filter-Id : n/a            Egress Filter-Id : n/a
tod-suite       : None
Multi Svc Site  : None
Acct. Pol       : None              Collect Stats    : Disabled
Anti Spoofing   : None              Nbr Static Hosts : 0
-----
Subscriber Management
-----
Admin State      : Down              MAC DA Hashing   : False
Def Sub-Profile  : None
Def SLA-Profile  : None
Sub-Ident-Policy : None
Subscriber Limit : 1
Single-Sub-Parameters
  Prof Traffic Only : False
  Non-Sub-Traffic   : N/A
=====
A:ALA-49#

*A:PE-1# show service id 1 sap 1/2/1 queue-depth
=====
Queue Depth Information (Ingress SAP)
=====
No Matching Entries
=====

Queue Depth Information (Egress SAP)
=====
-----
Name              : 1->1/2/1->1
MBS               : Def
-----
Queue Depths (percentage)
-----
0%-10% 11%-20% 21%-30% 31%-40% 41%-50% 51%-60% 61%-70% 71%-80% 81%-90% 91%-100%
-----
68.21  3.64   3.43   3.47   3.86   3.22   3.86   2.87   3.78   3.66
-----
Average Elapsed Time      : 0d 00:11:48
Wghtd Avg Polling Interval: 99 ms
=====

```

=====  
\*A:PE-1#

\*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

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 Max Unconst BW: no limit      MCAC Const Adm St : Enable
MCAC In use Mand BW: 0             MCAC Max Mand BW  : no limit
MCAC In use Opnl BW: 0             MCAC Avail Mand BW: unlimited
Use LAG port weight: no           MCAC Avail Opnl BW: unlimited
Restr MacProt Src : Disabled        Restr MacUnpr Dst : Disabled
```

## IES Show Commands

```
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      : n/a                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

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 : 1                    Egress qos-policy : 30
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       : test2
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  
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  
-----

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)

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

## IES Show Commands

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

## sdp

**Syntax** **sdp** [{*sdp-id* | **far-end** *ip-address* }] [**detail**]

**Context** show>service>id

**Description** 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* — The SDP ID for which to display information.

**Values** 1 — 17407

**far-end** *ip-address* — When specified, displays SDP having the specified far-end IP address.

**detail** — Displays detailed information for the SDP.

### Sample Output

```
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
MAC Aging            : Enabled
L2PT Termination    : Disabled
MAC Pinning         : Disabled

Discard Unkwn Srce  : Disabled
BPDU Translation    : Disabled

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

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

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

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

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

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

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

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

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

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

Lsp Name           : A_B_10
Admin State        : Up
Time Since Last Tr*: 00h26m34s
Oper State         : Up

```

## IES Show Commands

```
-----
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
hl                   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
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
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
RST BPDUs rcvd       : 0
Bad BPDUs rcvd       : 0
Cfg BPDUs tx         : 0
TCN BPDUs tx         : 0
RST BPDUs tx         : 0
-----
Number of SDPs : 1
-----
* indicates that the corresponding row element may have been truncated.
-----
A:Dut-A#
```

## 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** Displays subscriber host information.
- Parameters** **sap** *sap-id* — Displays the specified subscriber host SAP information. See Common CLI Command Descriptions on page 847 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

*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.

## statistics

**Syntax** **statistics** [*ip-int-name* | *ip-address*]

**Context** show>router>dhcp

**Description** Display statistics for DHCP relay and DHCP snooping. If no IP address or interface name is specified, then all configured interfaces are displayed. If an IP address or interface name is specified, then only data regarding the specified interface is displayed.

**Parameters** *ip-int-name* | *ip-address* — Displays statistics for the specified IP interface.

**Output** **Show DHCP Statistics Output** — The following table describes the output fields for DHCP.i

Label	Description
Received Packets	The number of packets received from the DHCP clients.
Transmitted Packets	The number of packets transmitted to the DHCP clients.
Received Malformed Packets	The number of malformed packets received from the DHCP clients.
Received Untrusted Packets	The number of untrusted packets received from the DHCP clients.
Client Packets Discarded	The number of packets received from the DHCP clients that were discarded.
Client Packets Relayed	The number of packets received from the DHCP clients that were forwarded.
Client Packets Snooped	The number of packets received from the DHCP clients that were snooped.

Label	Description (Continued)
Server Packets Discarded	The number of packets received from the DHCP server that were discarded.
Server Packets Relayed	The number of packets received from the DHCP server that were relayed.
Server Packets Snooped	The number of packets received from the DHCP server that were snooped.

**Sample Output**

```
*A:ALA-1# show router dhcp statistics
=====
DHCP Global Statistics
=====
Rx Packets                : 0
Tx Packets                : 0
Rx Malformed Packets     : 0
Rx Untrusted Packets     : 0
Client Packets Discarded  : 0
Client Packets Relayed   : 0
Client Packets Snooped   : 0
Server Packets Discarded  : 0
Server Packets Relayed   : 0
Server Packets Snooped   : 0
=====
*A:ALA-1#
```

## summary

**Syntax** `summary`

**Context** `show>router>dhcp`

**Description** This command displays the status of the DHCP relay and DHCP snooping functions on each interface.

**Output** **Show DHCP Summary Output** — The following table describes the output fields for DHCP summary.

Label	Description
Interface Name	Name of the router interface.
SapId/Sdp	Specifies the associated SAP ID or SDP ID.
Arp Populate	Specifies whether or not ARP populate is enabled.
Used/Provided	Used — The number of lease-states currently in use on a specific interface (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 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 router dhcp summary
=====
DHCP Summary (Router: Base)
=====
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
ies-test                 No        0/0        Keep      Up
  sap:9/1/2:0/500        0/0
test                     No        0/0        Keep      Up
  sap:10/1/2:0           0/0
test1                    No        0/0        Keep      Up
  sap:7/1/1.1.2          0/0
test2                    No        0/0        Keep      Up
  sap:7/1/1.2.1          0/0
testA                    No        0/0        Keep      Up
  sap:7/1/3.1.1          0/0
testB                    No        0/0        Keep      Up
  sap:7/1/5.1.1          0/0
to-HQ                    No        0/0        Keep      Up
  sdp:spoke-2:1001       0/0
to-web                   No        0/0        Keep      Up
  sap:2/1/10:50          0/0
-----
Interfaces: 9
```

## vrrp

- Syntax** **vrrp**
- Context** show>router
- Description** This command displays information VRRP instances.

## instance

- Syntax** **instance**  
**instance interface** *interface-name* [**vrid** *virtual-router-id*]  
**instance interface** *interface-name* **vrid** *virtual-router-id* *ipv6*
- Context** show>router>vrrp
- Description** This command displays statistics for the VRRP instance.
- Parameters** *interface-name* — Displays statistics for the specified interface.  
*virtual-router-id* — Displays statistics for the specified virtual router ID.
- Values** 1 — 255

## statistics

- Syntax** **statistics**
- Context** show>router>vrrp
- Description** This command displays statistics for the VRRP instance.

## retailers

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



## wholesalers

**Syntax** `wholesalers`

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

**Description** This command displays service wholesaler information.

---

## IES Clear Commands

### dhcp

<b>Syntax</b>	<b>dhcp</b>
<b>Context</b>	clear>router>dhcp clear>service>id
<b>Description</b>	This command enables the context to clear DHCP parameters.

### dhcp6

<b>Syntax</b>	<b>dhcp6</b>
<b>Context</b>	clear>router>dhcp6 clear>service>id
<b>Description</b>	This command enables the context to clear DHCPv6 parameters.

### statistics

<b>Syntax</b>	<b>statistics</b> [ <i>ip-int-name</i>   <i>ip-address</i> ]
<b>Context</b>	clear>router>dhcp
<b>Description</b>	Clears DHCP statistics.

### id

<b>Syntax</b>	<b>id</b> <i>service-id</i>
<b>Context</b>	clear>service clear>service>statistics
<b>Description</b>	This command clears parameters for a specific service.
<b>Parameters</b>	<i>service-id</i> — The ID that uniquely identifies the service to clear.

## arp-host

**Syntax** **arp-host**  
**arp-host** { **mac** *ieee-address* | **sap** *sap-id* | **ip-address** *ip-address[/mask]* }  
**arp-host** [**port** *port-id*] [**inter-dest-id** *intermediate-destination-id* | **no-inter-dest-id**]  
**arp-host statistics** [**sap** *sap-id* | **interface** *interface-name*]

**Context** clear>service>id

**Description** This command clears ARP host data.

## interface

**Syntax** **interface** [*ip-int-name* | *ip-addr*] [**icmp**]

**Context** clear>router

**Description** This command clears IP interface statistics.  
If no IP interface is specified either by IP interface name or IP address, the command will perform the clear operation on all IP interfaces.

**Parameters** *ip-int-name* | *ip-addr* — The IP interface name or IP interface address.

**Default** All IP interfaces.

**icmp** — Specifies to reset the ICMP statistics for the IP interface(s) used for ICMP rate limit.

## interface

**Syntax** **interface** *interface-name* [**vrid** *virtual-router-id*]  
**interface** *interface-name* **vrid** *virtual-router-id* **ipv6**

**Context** clear>router>vrrp

**Description** This command clears and resets VRRP instances.

**Parameters** *interface-name* — Specifies an existing interface name up to 32 characters in length.

*virtual-router-id* — Specifies the virtual router identifier.

**Values** 1 — 255

## statistics

**Syntax** **statistics interface** *interface-name* [**vrid** *virtual-router-id*]  
**statistics**  
**statistics interface** *interface-name* **vrid** *virtual-router-id* **ipv6**

**Context** clear>router>vrrp

## IES Show Commands

**Description** This command clears statistics for VRRP instances.

**Parameters** *interface-name* — Specifies an existing interface name up to 32 characters in length.

*virtual-router-id* — Specifies the virtual router identifier.

**Values** 1 — 255

## fdb

**Syntax** `fdb {all | mac ieee-address | sap sap-id] | mesh-sdp sdp-id[:vc-id] | spoke-sdp sdp-id:vc-id}`

**Context** `clear>service>id`

**Description** This command clears FDB entries for the service.

**Parameters** **all** — Clears all FDB entries.

**mac *ieee-address*** — Clears only FDB entries in the FDB table with the specified 48-bit MAC address. The MAC address can be expressed 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.

**sap *sap-id*** — Clears the specified SAP information. See Common CLI Command Descriptions on page 847 for command syntax.

**mesh-sdp** — Clears only service FDB entries associated with the specified mesh SDP ID. For a mesh SDP, the VC ID is optional.

**spoke-sdp** — Clears only service FDB entries associated with the specified spoke SDP ID. For a spoke SDP, the VC ID must be specified.

*sdp-id* — The SDP ID for which to clear associated FDB entries.

**Values** 1 — 17407

*vc-id* — The virtual circuit ID on the SDP ID for which to clear associated FDB entries.

**Default** For mesh SDPs only, all VC IDs.

**Values** 1 — 4294967295

## site

**Syntax** `site service-id`

**Context** `clear>service>id`

**Description** This command clears site-specific information for the service.

**Parameters** *service-id* — Specifies the service ID or service name up to 64 characters in length.

**Values** 1 — 2147483648

## spoke-sdp

**Syntax** `spoke-sdp sdp-id:vc-id ingress-vc-label`

**Context** `clear>service>id`

**Description** Clears and resets the spoke SDP bindings for the service.

**Parameters** *sdp-id* — The spoke SDP ID to be reset.

## IES Show Commands

**Values** 1 — 17407

*vc-id* — The virtual circuit ID on the SDP ID to be reset.

**Values** 1 — 4294967295

## stp

**Syntax** **stp**

**Context** clear>service>statistics>id

**Description** Clears all spanning tree statistics for the service ID.

## lease-state

**Syntax** **lease-state**  
**lease-state ip-address** *ip-address*  
**lease-state mac** *ieee-address*  
**lease-state sap** *sap-id*  
**lease-state sdp** *sdp-id:vc-id*

**Context** clear>service>id>dhcp

**Description** Clears DHCP lease state information for this service.

**Parameters** *ip-address* — 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. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

*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.

**sap** *sap-id* — Clears the specified lease state SAP information. See Common CLI Command Descriptions on page 847 for command syntax.

*sdp-id* — The specified SDP to be cleared.

**Values** 1 — 17407

*vc-id* — The virtual circuit ID on the SDP ID to be cleared.

**Values** 1 — 4294967295

## lease-state

**Syntax** **lease-state** [**ip-address** *ipv6-address/prefix-length*] [**mac** *ieee-address*]

**Context** clear>service>id>dhcp6

**Description** This command clears DHCPv6 lease state information for this service.

**Parameters** **ip-address** *ipv6-address/prefix-length* — 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. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

**Values**

ipv6-address	x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:d.d.d.d
	x [0 — FFFF]H
	d [0 — 255]D
prefix-length	1 — 128

**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.

## statistics

**Syntax** **statistics** [*ip-int-name* | *ipv6-address*]

**Context** clear>router>dhcp6

**Description** This command clears DHCP6 statistics.

**Parameters** *ip-int-name* — Specifies the IP interface name up to 32 characters in length.

**ip-address** *ipv6-address/prefix-length* — 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. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

**Values**

ipv6-address	x:x:x:x:x:x:x (eight 16-bit pieces)
	x:x:x:x:x:d.d.d.d
	x [0 — FFFF]H
	d [0 — 255]D
prefix-length	1 — 128

## statistics

**Syntax** **statistics** [**sap** *sap-id* | **sdp** *sdp-id:vc-id* | **interface** *ip-address* | *ip-int-name*]

**Context** clear>service>id>dhcp

**Description** This command clears DHCP statistics.

**Parameters** **sap** *sap-id* — Clears the specified SAP information. See Common CLI Command Descriptions on page 847 for command syntax.

**sdp** *sdp-id* — The specified SDP to be cleared.

**Values** 1 — 17407

## IES Show Commands

*vc-id* — The virtual circuit ID on the SDP ID to be cleared.

**Values**     1 — 4294967295

**interface** *ip-address* — The interface IP address.

**ip-int-name** — The interface name.





---

## IES Debug Commands

### host-connectivity-verify

**Syntax** [no] **host-connectivity-verify**

**Context** debug>service>id

**Description** This command enables Subscriber Host Connectivity Verification (SHCV) debugging. The **no** form of the command disables the SHCV debugging.

### ip

**Syntax** [no] **ip** *ip-address*

**Context** debug>service>id>host-connectivity-verify

**Description** This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular IP address.

**Parameters** *ip-address* — 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. Allowed values are IP addresses in the range 1.0.0.0 – 223.255.255.255 (with support of /31 subnets).

### mac

**Syntax** [no] **mac** *ieee-address*

**Context** debug>service>id>host-connectivity-verify

**Description** This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular MAC address.

**Parameters** *mac-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.

## sap

**Syntax** [no] sap *sap-id*

**Context** debug>service>id>host-connectivity-verify

**Description** This command displays Subscriber Host Connectivity Verification (SHCV) events for a particular SAP.

**Parameters** *sap-id* — Specifies the physical port identifier portion of the SAP definition. See Common CLI Command Descriptions on page 847 for command syntax.

## packets

**Syntax** [no] packets  
[no] packets interface *ip-int-name* [vrid *virtual-router-id*]  
[no] packets interface *ip-int-name* vrid *virtual-router-id* ipv6

**Context** debug>router>vrrp

**Description** This command enables or disables debugging for VRRP packets.

**Parameters** *ip-int-name* — Specifies the interface name.  
*virtual-router-id* — Specifies the router ID.

**Values** 1 — 255

## events

**Syntax** [no] events  
[no] events interface *ip-int-name* [vrid *virtual-router-id*]  
[no] events interface *ip-int-name* vrid *virtual-router-id* ipv6

**Context** debug>router>vrrp

**Description** This command enables or disables debugging for VRRP events.

**Parameters** *ip-int-name* — Specifies the interface name.  
*virtual-router-id* — Specifies the router ID.

**Values** 1 — 255

## instance

**Syntax** instance interface *interface-name* vr-id *virtual-router-id* [ipv6] [interval *seconds*] [repeat *repeat*]  
[absolute|rate]

**Context** monitor>router>vrrp

**Description** This command enables monitoring for statistics for VRRP instances.

