

Configuring an IES Service with CLI

This section provides information to configure IES services using the command line interface.

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Basic Configuration

The most basic IES service configuration has the following entities:

- Customer ID (refer to the *Services Overview Guide* for more information)
- An interface to create and maintain IP routing interfaces within IES service ID.
- A SAP on the interface specifying the access port and encapsulation values.

The following example displays a sample configuration of an IES service on ALA-48.

```
*A:ALA-48>config>service# info
-----
    ies 1000 customer 50 vpn 1000 create
        description "to internet"
        interface "to-web" create
            address 10.1.1.1/24
            sap 1/1/5:0.* create
            exit
        exit
        no shutdown
-----
*A:ALA-48>config>service#
```

Common Configuration Tasks

This section provides a brief overview of the tasks that must be performed to configure IES services and provides the CLI commands.

1. Associate an IES service with a customer ID.
2. Associate customer ID with the service.
3. Assign an IP address.
4. Create a subscriber interface (optional).
5. Create an interface.
6. Define SAP parameters on the interface
 - Select node(s) and port(s).
 - Optional — select QoS policies other than the default (configured in the **config>qos** context).
 - Optional — select filter policies (configured in the **config>filter** context).
 - Optional — select accounting policy (configured in the **config>log** context).
7. Enable service.

Configuring IES Components

Use the CLI syntax to configure the following entities:

- [Configuring an IES Service on page 48](#)
- [Configuring IES Interface Parameters on page 50](#)
 - [Configuring IES Subscriber Interface Parameters on page 49](#)
 - [Configuring Spoke-SDP Parameters on page 51](#)
 - [Configuring SAP Parameters on page 52](#)
 - [Configuring VRRP on page 55](#)

Configuring an IES Service

Use the following CLI syntax to create an IES service:

The following example displays a basic IES service configuration.

```
A:ALA-48>config>service#  
-----  
...  
    ies 1001 customer 1730 vpn 1001 create  
        description "to-internet"  
        no shutdown  
    exit  
-----  
A:ALA-48>config>service#
```

Configuring IES Subscriber Interface Parameters

NOTE: Subscriber interfaces operate only with basic (or enhanced) subscriber management. At the very least, a host, either statically configured or dynamically learned by DHCP must be present in order for the interface to be useful.

Refer to [IES Services Command Reference on page 55](#) for CLI syntax to configure IES subscriber interface parameters.

The following example displays a subscriber interface configuration:

```
A:ALA-48>config>service>ies>sub-if# info
-----
      address 143.144.140.1/24
      group-interface "abc-if" create
      sap 1/1/19:0 create
      ingress
      qos 2
      filter ip 10
      exit
      static-host ip 143.144.145.100 mac 00:01:00:00:00:01 create
      exit
      exit
      exit
-----
A:ALA-48>config>service>ies>sub-if#
```

Configuring IES Interface Parameters

The following example displays an IES configuration with interface parameters:

```
A:ALA-48>config>service>ies>if# info
-----
      address 10.1.1.1/24
      sap 1/1/10:0.* create
      ingress
        qos 100
      exit
      egress
        scheduler-policy "SLA1"
      exit
    exit
    vrrp 1 owner
      authentication-key "3WErEDozxyQ" hash
    exit
-----
A:ALA-48>config>service>ies>if#
```

Configuring Spoke-SDP Parameters

The following example displays a spoke SDP configuration.

```
A:ALA-48>config>service>ies# info
-----
      description "to internet"
      interface "spokeSDP-test" create
        spoke-sdp 2:100 create
          egress
            filter ip 10
          exit
        exit
      exit
    exit
  no shutdown
-----
A:ALA-48>config>service>ies#
```

Configuring SAP Parameters

A SAP is a combination of a port and encapsulation parameters which identifies the service access point on the interface and within the router. Each SAP must be unique within a router.

When configuring IES SAP parameters, a default QoS policy is applied to each ingress and egress SAP. Additional QoS policies and scheduler policies must be configured in the **config>qos** context. Filter policies are configured in the **config>filter** context and must be explicitly applied to a SAP. There are no default filter policies.

IES interface ATM SAP parameters can only be configured on ATM-type MDAs and ATM-configured ports. See the 7750 SR OS Basic System Configuration Guide.

Refer to [IES Services Command Reference on page 55](#) for CLI syntax.

This example displays an IES SAP configuration.

```
*A:ALA-A>config>service>ies>if# info
-----
      address 10.10.36.2/24
      sap 5/1/3.1:0 create
        ingress
          qos 101
        exit
        egress
          scheduler-policy "alpha"
          qos 1010
        exit
      exit
-----
*A:ALA-A>config>service>ies>if#
```


Configuring IES SAP ATM Parameters

The following example displays the command usage to create Apipe SAPs:

PE router 1 (A:ALA-41):

```
Example: A:ALA-41>config>service# ies 5
A:ALA-41>config>service>ies# sap 1/1/1:0/32 create
A:ALA-41>config>service>ies>sap# ingress
A:ALA-41>config>service>ies>sap>ingress# qos 102
A:ALA-41>config>service>ies>sap>ingress# exit
A:ALA-41>config>service>ies>sap# egress
A:ALA-41>config>service>ies>sap>egress# qos 103
A:ALA-41>config>service>ies>sap>egress# exit
A:ALA-41>config>service>ies>sap# no shutdown
A:ALA-41>config>service>ies>sap# exit
A:ALA-41>config>service>ies#
```

PE router 2 (A:ALA-42):

```
Example: A:ALA-42>config>service# ies 5
A:ALA-42>config>service>ies# sap 2/2/2:0/32 create
A:ALA-42>config>service>ies>sap# ingress
A:ALA-42>config>service>ies>sap>ingress# qos 102
A:ALA-42>config>service>ies>sap>ingress# exit
A:ALA-42>config>service>ies>sap# egress
A:ALA-42>config>service>ies>sap>egress# qos 103
A:ALA-42>config>service>ies>sap>egress# exit
A:ALA-42>config>service>ies>sap# no shutdown
A:ALA-42>config>service>ies>sap# exit
A:ALA-42>config>service>ies#
```

The following output displays the IES SAP configuration.

PE Router 1 (ALA-41):

```
A:ALA-41>config>service# info
-----
...
    ies 5 customer 1 create
        description "apipe test"
        service-mtu 1400
        sap 1/1/1:0/32 create
            ingress
                qos 102
            exit
            egress
                qos 103
            exit
        exit
        no shutdown
    exit
...
```

Configuring IES Components

```
-----  
A:ALA-41>config>service#
```

Configuring VRRP

Configuring VRRP parameters on an IES interface is optional. VRRP can be configured in either an owner or non-owner mode. The owner is the VRRP router whose virtual router IP address is the same as the real interface IP address. This is the router that responds to packets addressed to one of the IP addresses for ICMP pings, TCP connections, etc. All other virtual router instances participating in this message domain must have the same VRID configured and cannot be configured as owner.

For further information about VRRP CLI syntax and command descriptions refer to the 7750 SR OS Router Configuration Guide.

The following example displays the IES configuration:

```
*A:ALA-A>config>service>ies>if# info
-----
      address 10.10.36.2/24
      vrrp 2 owner
          backup 10.10.36.2
          authentication-key "3WErEDozxyQ" hash
      exit
-----
*A:ALA-A>config>service#
```

Configuring IPSec Parameters

The following output displays an IES service with IPSec parameters configured.

```
*A:ALA-49>config# info
-----
...
  service
    ies 100 customer 1 create
      interface "ipsec-public" create
        address 10.10.10.1/24
        sap ipsec-1.public:1 create
        exit
      exit
    no shutdown
  exit
exit
...
-----
*A:ALA-49>config#
```

IGMP Host Tracking

The following output displays an IES service with IGMP host tracking parameters configured.

```
*A:ALA-49>config>service# info
-----
...
    ies 25 customer 1 create
        interface "ip_if_4" create
            loopback
            delayed-enable 1200
            address 64.64.64.64/24
            sap lag-64:64 create
                no shutdown
            exit
            allow-directed-broadcasts
            host-connectivity-verify
            ip-mtu 9000
            local-dhcp-server "server 1"
            local-proxy-arp
            proxy-arp-policy tree-trace-1
            remote-proxy-arp
            secondary 2.3.4.5 255.255.255.0
            secondary 2.3.4.5/24
            tos-marking-state trusted
            tos-marking-state untrusted
            urpf-check
            exit
        exit
        igmp-host-tracking
            expiry-time 65535
            no shutdown
        exit
...
-----
*A:ALA-49>config>service#
```

Service Management Tasks

This section discusses the following service management tasks:

- [Modifying IES Service Parameters on page 58](#)
- [Deleting a Spoke-SDP on page 59](#)
- [Deleting an IES Service on page 60](#)

Modifying IES Service Parameters

Existing IES service parameters in the CLI or NMS can be modified, added, removed, enabled or disabled. The changes are applied immediately to all services when the charges are applied.

To display a list of customer IDs, use the **show service customer** command.

Enter the parameter(s) (such as description, SAP information and SDP information) and then enter the new information.

The following displays the modified service:

```
*A:ALA-A>config>service>ies# info
-----
  ies 1000 customer 50 vpn 1000 create
      description "This is a new description"
      interface "to-web" create
          address 10.1.1.1/24
          mac 00:dc:98:1d:00:00
          allow-directed-broadcast
          sap 2/1/50:0 create
          exit
      exit
      no shutdown
  exit
-----
*A:ALA-A>config>service#
```

Deleting a Spoke-SDP

To delete the spoke SDP from the service interface must be shut down. This cleans up the associated VC labels.

Use the following CLI syntax to delete a spoke SDP from an interface:

```
CLI Syntax: config>service# ies service-id [customer customer-id] [vpn vpn-id]  
                interface ip-int-name  
                    [no] spoke-sdp sdp-id:vc-id  
                    shutdown
```

The following example displays the spoke SDP configuration.

```
A:ALA-48>config>service>ies# info  
-----  
description "to internet"  
interface "spokeSDP-test" create  
exit  
no shutdown  
-----  
A:ALA-48>config>service>ies#
```

Deleting an IES Service

An IES service cannot be deleted until SAPs and interfaces are shut down *and* deleted and the service is shutdown on the service level.

Use the following CLI syntax to delete an IES service:

```
CLI Syntax:config>service#  
    [no] ies service-id  
    shutdown  
    [no] interface ip-int-name  
    shutdown  
    [no] sap sap-id  
    shutdown
```


Disabling an IES Service

An IES service can be shut down without deleting the service parameters.

CLI Syntax:
`config>service> ies service-id
shutdown`

Re-Enabling an IES Service

To re-enable an IES service that was shut down.

CLI Syntax:
`config>service> ies service-id
[no] shutdown`

Example:
`config>service# ies 2000
config>service>ies# no shutdown
config>service>ies# exit`

