

## Chapter 31

# Encryption Services Interfaces Operational Mode Commands

This chapter describes the `show interfaces` command you use to monitor and troubleshoot encryption services interfaces.

### show interfaces (for ES Interfaces)

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<b>Syntax</b>	<code>show interfaces es-fpc/pic/port:es &lt;brief   detail   extensive&gt; &lt;destination-class destination-class-name&gt; &lt;media&gt; &lt;source-class source-class-name&gt; &lt;statistics&gt;</code>
<b>Description</b>	Display status information about ES router interfaces.
<b>Options</b>	<p>none—Display information about all interfaces.</p> <p><code>es-fpc/pic/port:es channel</code>—Name of an interface.</p> <p>brief—(Optional) Display brief interface information.</p> <p>detail—(Optional) Display detailed interface information.</p> <p>extensive—(Optional) Display very detailed interface information.</p> <p>destination-class <i>destination-class-name</i>—(Optional) Name of a logical grouping of prefixes that count packets having the destination address matching those prefixes. Whenever a destination class is specified, you must also specify a particular logical interface, not all interfaces.</p> <p>media—(Optional) Display media-specific information about network interfaces.</p> <p>source-class <i>source-class-name</i>—(Optional) Name of a logical grouping of prefixes that count packets having the source address matching those prefixes. Whenever a source class is specified, you must also specify a particular logical interface, not all interfaces.</p> <p>statistics—(Optional) Display static interface statistics.</p>
<b>Required Privilege Level</b>	view

**Sample Output** show interfaces (standard) (for ES Interfaces) on page 424  
 show interfaces brief (for ES Interfaces) on page 424  
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**Output Fields at a Glance** Table 56 summarizes the information included in the output fields of each show interfaces command option for ES interfaces. In this table, output fields are listed in alphabetical order. Table 57 on page 422 lists the output fields in more detail in the order in which they are displayed.

**Table 56: ES Show Interfaces Output Field Summary (Alphabetical Order)**

Options	Field Description
<b>Physical Interface</b>	
Detail	Anti-replay failures—Total number of anti-replay failures seen on all tunnels configured on the ES PIC.
Detail Extensive	Authentication—Total number of authentication failures seen on all tunnels configured on the ES PIC.
All	Enabled—State of the interface. Possible values are described in “Enabled” on page 7.
All	Flags—Information about the physical device and interface.
Detail	Generation—A unique number for use by Juniper Networks Customer Support only.
Detail	Hold-times—Current interface hold-time up and hold-time down, in milliseconds.
Standard	Input rate, Output rate—Rate of bits and packets received and transmitted on the interface.
All	Interface index—Physical interface’s index number, which reflects its initialization sequence.
All	Last flapped—Date, time, and how long ago the interface went from down to up.
All	Link-level type—Describes the link layer type.
All	MTU—MTU size on the physical interface.
All	Physical interface—Name of the physical interface.
Standard Detail	SNMP ifIndex—SNMP index number for the physical interface.
All	Speed—Speed at which the interface is running.
Detail	Statistics last cleared—Time when the statistics for the interface were last zeroed.
Detail	Traffic statistics—Number and rate of bytes and packets received and transmitted on the physical interface.
All	Type—Encapsulation being used on the interface.

Options		Field Description
<b>Logical Interface</b>		
Detail	Extensive	Authentication failures—Number of authentication failures seen on a tunnel configured on the ES PIC.
Detail		Broadcast—Broadcast address on the logical interface.
Standard	Detail	Destination—For a point-to-point link, the address of the remote side of the link. For multicast links, the network address.
All		Encapsulation—Encapsulation on the logical interface.
Detail	Extensive	Filters—Name of the firewall filters to be evaluated when packets are received or transmitted on the interface.
All		Logical interface flags—Information about the logical interface. Possible values are described in “Logical Interface Flags” on page 9.
Detail		IPSec Security association—Name of the security association.
Detail		Local—IP address of the logical interface.
Detail		Generation—A unique number for use by Juniper Networks Customer Support only.
Detail		Local statistics—Statistics for traffic received from and transmitted to the Routing Engine. When a burst of traffic is received, the value in the output packet rate field might briefly exceed the peak cell rate. It takes a while (generally, less than 1 second) for this counter to stabilize.
All		Logical interface, Index, SNMP ifIndex—Name of the logical interface, the logical interface’s index number (which reflects its initialization sequence), and the logical interface’s SNMP interface index number.
Detail	Extensive	Policer—Policers to be evaluated when packets are received or transmitted on the interface.
Standard	Detail	Protocol—Protocol running on the logical interface.
Detail	Extensive	Source class—List of the names of source class usage (SCU) counters per family and per class for this interface. The counters display Packets and Bytes arriving from designated user-selected prefixes.
Detail		Receive sequence number—Receive sequence number of the replay window. This is applicable only if authentication is configured on the tunnel.
Detail		Route table—Name of route table.
Detail		Traffic statistics—Total number of bytes and packets received and transmitted on the logical interface. These statistics are the sum of the local and transit statistics. When a burst of traffic is received, the value in the output packet rate field might briefly exceed the peak cell rate. It takes a while (generally, less than 1 second) for this counter to stabilize.
Detail		Transit statistics—Statistics for traffic transiting the router. When a burst of traffic is received, the value in the output packet rate field might briefly exceed the peak cell rate. It takes a while (generally, less than 1 second) for this counter to stabilize.
Detail		Transmit sequence number—Transmit sequence number of the replay window. This is applicable only if authentication is configured on the tunnel.

**Table 57: ES Show Interfaces Output Field Summary (Order of Appearance)**

<b>Output Field</b>	<b>Output Field Description</b>
<b>Physical Interface</b>	
Physical interface	Name of the physical interface.
Enabled	State of the interface. Possible values are described in “Enabled” on page 7.
Interface index	Physical interface’s index number, which reflects its initialization sequence.
SNMP ifIndex	SNMP index number for the physical interface.
Generation	A unique number for use by Juniper Networks Customer Support only.
Type	Encapsulation being used on the interface.
Link-level type	Encapsulation being used on the physical interface.
MTU	MTU size on the physical interface.
Speed	Speed at which the interface is running.
Device flags	Information about the physical device. Possible values are described in “Device Flags” on page 7.
Interface flags	Information about the interface.
Hold-times	Current interface hold-time up and hold-time down, in milliseconds.
LCP state	Specific PPP bits. Opened indicates that they have been initialized and opened, which means that the link is healthy.
NCP state	Specific PPP bits. Opened indicates that they have been initialized and opened, which means that the link is healthy.
Statistics last cleared	Time when the statistics for the interface were last zeroed.
Traffic statistics	Number and rate of bytes and packets received and transmitted on the physical interface. Input bytes, Output bytes—Number of bytes received and transmitted on the interface. Input packets, Output packets—Number of packets received and transmitted on the interface.
Input rate, Output rate	(Standard output only) Rate of bits (in bps) and packets (in pps) received and transmitted on the interface.
Anti-replay failures	Total number of anti-replay failures seen on all tunnels configured on the ES PIC.
Authentication failures	(Physical interface) Total number of authentication failures seen on all tunnels configured on the ES PIC.
<b>Logical Interface</b>	
Logical interface, Index, SNMP ifIndex	Name of the logical interface, the logical interface’s index number (which reflects its initialization sequence), and the logical interface’s SNMP interface index number.
Generation	A unique number for use by Juniper Networks Customer Support only.
Flags	Information about the logical interface. Possible values are described in “Logical Interface Flags” on page 9.
Encapsulation	Encapsulation on the logical interface.

Output Field	Output Field Description
Traffic statistics	<p>Total number of bytes and packets received and transmitted on the logical interface. These statistics are the sum of the local and transit statistics. When a burst of traffic is received, the value in the output packet rate field might briefly exceed the peak cell rate. It takes a while (generally, less than 1 second) for this counter to stabilize.</p> <p>Input rate—Rate of bits and packets received on the interface.</p> <p>Output rate—Rate of bits and packets transmitted on the interface.</p> <p>Anti-replay failures—Total number of anti-replay failures seen on all tunnels configured on the ES PIC.</p> <p>Authentication—Total number of authentication failures seen on all tunnels configured on the ES PIC.</p>
Local statistics	<p>Statistics for traffic received from and transmitted to the Routing Engine. When a burst of traffic is received, the value in the output packet rate field might briefly exceed the peak cell rate. It takes a while (generally, less than 1 second) for this counter to stabilize.</p>
Transit statistics	<p>Statistics for traffic transiting the router. When a burst of traffic is received, the value in the output packet rate field might briefly exceed the peak cell rate. It takes a while (generally, less than 1 second) for this counter to stabilize.</p>
Protocol	<p>Protocol running on the logical interface, such as iso, inet6, mpls.</p>
Route table	<p>The address is located in this route table. For example, Route table:0 refers to inet.0.</p>
Filters	<p>Name of the firewall filters to be evaluated when packets are received or transmitted on the interface. The format is Filters: Input: <i>input-filter-name</i>, Output: <i>output-filter-name</i>.</p>
Destination class	<p>List of the names of destination class usage (DCU) counters per family and per class for this interface. The counters display Packets and Bytes going to designated user-selected prefixes.</p>
Source class	<p>List of the names of source class usage (SCU) counters per family and per class for this interface. The counters display Packets and Bytes arriving from designated user-selected prefixes.</p>
Policer	<p>Policers to be evaluated when packets are received or transmitted on the interface. The format is Policer: Input: <i>type-fpc/pic/port-in-policer</i>, Output: <i>type-fpc/pic/port-out-policer</i>.</p>
Addresses	<p>Addresses associated with the logical interface.</p>
Flags	<p>Information about the address flags. Possible values are described in “Address Flags” on page 10.</p>
Destination	<p>IP address of the remote side of the connection.</p>
Local	<p>IP address of the logical interface.</p>
Broadcast	<p>Broadcast address.</p>
IPSec Security association	<p>Name of the security association.</p>
Authentication failures	<p>(Logical interface) Number of authentication failures seen on a tunnel configured on the ES PIC.</p>
Receive sequence number	<p>Receive sequence number of the replay window. This is applicable only if authentication is configured on the tunnel.</p>
Transmit sequence number	<p>Transmit sequence number of the replay window. This is applicable only if authentication is configured on the tunnel.</p>

## show interfaces (standard) (for ES Interfaces)

---

```
user@host> show interfaces es-0/2/0  
Physical interface: es-0/2/0, Enabled, Physical link is Up  
Interface index: 18, SNMP ifIndex: 22  
Type: IPSec, Link-level type: IPSec-over-IP, MTU: 3900, Speed: 800mbps  
Device flags : Present Running  
Interface flags: SNMP-Traps  
Input rate : 0 bps (0 pps)  
Output rate : 0 bps (0 pps)  
  
Logical interface es-0/2/0.0 (Index 6) (SNMP ifIndex 39)  
Flags: Point-To-Point SNMP-Traps Encapsulation: IPSec  
Input packets : 0  
Output packets: 0  
Protocol inet, IPSec Security association: sa2, MTU: 1400, Flags:  
Addresses, Flags: Is-Preferred Is-Primary  
Destination: 4.5.6.7, Local: 1.2.3.4
```

## show interfaces brief (for ES Interfaces)

---

```
user@host> show interfaces es-0/2/0 brief  
Physical interface: es-0/2/0, Enabled, Physical link is Up  
Type: IPSec, Link-level type: IPSec-over-IP, MTU: 3900, Speed: 800mbps  
Device flags : Present Running  
Interface flags: SNMP-Traps  
  
Logical interface es-0/2/0.0  
Flags: Point-To-Point SNMP-Traps Encapsulation: IPSec  
inet 1.2.3.4 --> 4.5.6.7
```

## show interfaces detail (for ES Interfaces)

---

```

user@host> show interfaces es-0/2/0 detail
Physical interface: es-0/2/0, Enabled, Physical link is Up
Interface index: 15, SNMP ifIndex: 19, Generation: 78
Type: IPSec, Link-level type: IPSec-over-IP, MTU: 3900, Speed: 800mbps
Hold-times   : Up 0 ms, Down 0 ms
Device flags  : Present Running
Interface flags: SNMP-Traps
Statistics last cleared: Never
Traffic statistics:
Input bytes   :           0           0 bps
Output bytes  :           0           0 bps
Input packets:           0           0 pps
Output packets:         0           0 pps
Anti-replay failures : 0
Authentication failures : 0
Queue counters:  Queued packets  Transmitted packets  Dropped packets
0 best-effort    0             0             0
1 expedited-fo  0             0             0
2 assured-forw  0             0             0
3 network-cont  0             0             0

Logical interface es-0/2/0.0 (Index 6) (SNMP ifIndex 21) (Generation 29)
Flags: Point-To-Point SNMP-Traps Encapsulation: IPSec
Traffic statistics:
Input bytes   :           0
Output bytes  :           0
Input packets:           0
Output packets:           0
Local statistics:
Input bytes   :           0
Output bytes  :           0
Input packets:           0
Output packets:           0
Transit statistics:
Input bytes   :           0           0 bps
Output bytes  :           0           0 bps
Input packets:           0           0 pps

```

## show interfaces extensive (for ES Interfaces)

---

```

user@host> show interfaces es-0/2/0 extensive
Physical interface: es-0/2/0, Enabled, Physical link is Up
Interface index: 18, SNMP ifIndex: 22, Generation: 17
Type: IPSec, Link-level type: IPSec-over-IP, MTU: 3900, Speed: 800mbps
Hold-times   : Up 0 ms, Down 0 ms
Device flags  : Present Running
Interface flags: SNMP-Traps
Statistics last cleared: Never
Traffic statistics:
Input bytes   :           0           0 bps
Output bytes  :           0           0 bps
Input packets :           0           0 pps
Output packets:          0           0 pps
Anti-replay failures : 0
Authentication failures : 0

Logical interface es-0/2/0.0 (Index 6) (SNMP ifIndex 39) (Generation 5)
Flags: Point-To-Point SNMP-Traps Encapsulation: IPSec
Traffic statistics:
Input bytes   :           0
Output bytes  :           0
Input packets :           0
Output packets:           0
Local statistics:
Input bytes   :           0
Output bytes  :           0
Input packets :           0
Output packets:           0
Transit statistics:
Input bytes   :           0           0 bps
Output bytes  :           0           0 bps
Input packets :           0           0 pps
Output packets:          0           0 pps
Protocol inet, IPSec Security association: sa2, MTU: 1400, Flags:
Generation: 7 Route table: 0 Authentication failures: 0
Addresses, Flags: Is-Preferred Is-Primary
Destination: 4.5.6.7, Local: 1.2.3.4, Broadcast: Unspecified,
Generation: 8

```

## show interfaces media (for ES Interfaces)

---

```

user@host> show interfaces es-0/2/0 media
Physical interface: es-0/2/0, Enabled, Physical link is Up
Interface index: 15, SNMP ifIndex: 19
Type: IPSec, Link-level type: IPSec-over-IP, MTU: 3900, Speed: 800mbps
Device flags  : Present Running
Interface flags: SNMP-Traps
Input rate    : 0 bps (0 pps)
Output rate   : 0 bps (0 pps)

```

## show interfaces statistics (for ES Interfaces)

---

```
user@host> show interfaces es-0/2/0 statistics  
Physical interface: es-0/2/0, Enabled, Physical link is Up  
Interface index: 18, SNMP ifIndex: 22  
Type: IPSec, Link-level type: IPSec-over-IP, MTU: 3900, Speed: 800mbps  
Device flags : Present Running  
Interface flags: SNMP-Traps  
Statistics last cleared: Never  
Input rate : 0 bps (0 pps)  
Output rate : 0 bps (0 pps)  
Anti-replay failures : 0  
Authentication failures : 0  
  
Logical interface es-0/2/0.0 (Index 6) (SNMP ifIndex 39)  
Flags: Point-To-Point SNMP-Traps Encapsulation: IPSec  
Input packets : 0  
Output packets: 0  
Protocol inet, IPSec Security Association: sa2, MTU: 1400, Flags:  
Authentication failures: 0  
Addresses, Flags: Is-Preferred Is-Primary  
Destination: 4.5.6.7, Local: 1.2.3.4
```

