

Chapter 31

Encryption Services Interfaces Operational Mode Command

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

show interfaces (for ES Interfaces)

| | |
|---------------------------------|--|
| Syntax | <code>show interfaces es-fpc/pic/port:es <brief detail extensive> <destination-class destination-class-name> <media> <source-class source-class-name> <statistics></code> |
| Description | Display status information about ES router interfaces. |
| Options | <p><code>none</code>—Display information about all interfaces.</p> <p><code>es-fpc/pic/port:es channel</code>—Name of an interface.</p> <p><code>brief</code>—(Optional) Display brief interface information.</p> <p><code>detail</code>—(Optional) Display detailed interface information.</p> <p><code>extensive</code>—(Optional) Display very detailed interface information.</p> <p><code>destination-class destination-class-name</code>—(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><code>media</code>—(Optional) Display media-specific information about network interfaces.</p> <p><code>source-class source-class-name</code>—(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><code>statistics</code>—(Optional) Display static interface statistics.</p> |
| Required Privilege Level | view |

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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 414 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 |
|---------------------------|---|
| Physical Interface | |
| 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 |
|--------------------------|-----------|---|
| Logical Interface | | |
| 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)

| Output Field | Output Field Description |
|--|--|
| Physical Interface | |
| 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. |
| Logical Interface | |
| 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
```

