Example: Configuring MPLS on EX-series Switches

You can configure MPLS on your switches to increase transport efficiency in your network. MPLS services can be used to connect various sites to a backbone network or to ensure better performance for low-latency applications such as VoIP and other business-critical functions.

This example shows how to configure an MPLS tunnel:

Requirements

This example uses the following hardware and software components:

- JUNOS Release 9.5 or later for EX-series switches
- Three EX-series switches

Before you begin configuring MPLS, ensure that you have configured either the OSPF or IS-IS routing protocol on the switches. This example includes the configuration of OSPF on the switches.

Overview and Topology

You can configure MPLS on your switches to increase transport efficiency in your network. This example includes an ingress or local provider edge switch, an egress or remote provider edge switch, and one provider (transit) switch. It includes CCCs that tie the customer-edge interface of the local provider edge switch (PE-1) to the customer-edge interface of the remote provider edge switch (PE-2). It also describes how to configure the core interfaces of the provider edge switches and the provider switch to support the transmission of the MPLS packets. In this example, the core interfaces that connect the local provider edge switch and the provider switch are individual interfaces; whereas the core interfaces that connect the remote provider edge switch and the provider switch are aggregated Ethernet interfaces.

NOTE: You do not need to create a LAG for an MPLS connection. This example includes a LAG between the provider switch and the remote provider edge switch, because this type of configuration is another option that you may wish to implement. For information on configuring LAGs, see Configuring Aggregated Ethernet Interfaces (CLI Procedure).

Figure 1 shows the topology used in this example.

Figure 1: Configuring MPLS on EX-series Switches

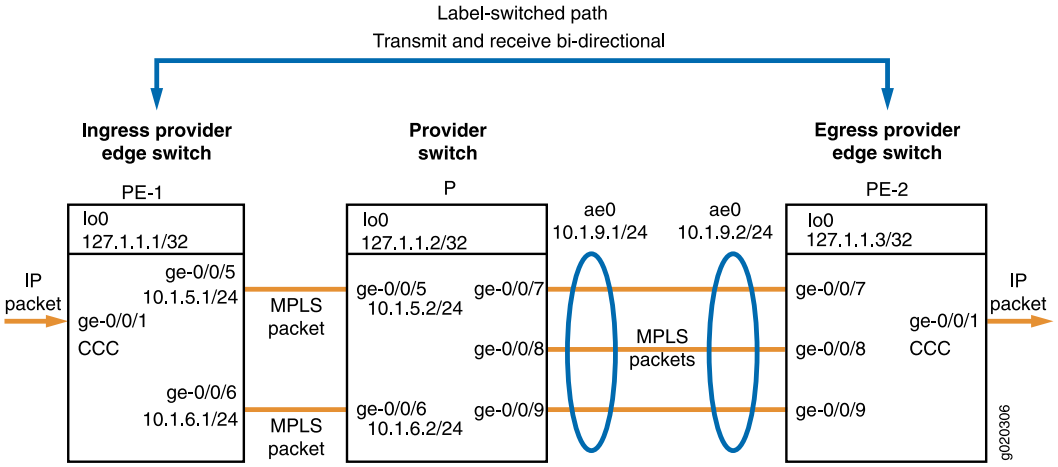

Table 1 shows the MPLS configuration components used for the ingress provider edge switch in this example.

Table 1: Components of the Ingress PE Switch in Topology for MPLS with Interface-Based CCC

Property	Settings	Description
Local provider edge switch hardware	EX-series switch	PE-1
Loopback address	lo0 127.1.1.1/32	Identifies PE-1 for interswitch communications.
Routing protocol	ospf traffic-engineering	Indicates that this switch is using OSPF as the routing protocol and that traffic engineering is enabled.
MPLS protocol and definition of label switched path	mpls label-switched-path lsp_to_pe2_ge1 to 127.1.13	Indicates that this provider edge switch is using the MPLS protocol with the specified label switched path (LSP) to reach the other provider edge switch (specified by the loopback address). The statement must also specify the core interfaces to be used for MPLS traffic.
RSVP protocol	rsvp	Indicates that this switch is using the RSVP protocol. The statement must specify the loopback address and the core interfaces that are going to be used for the RSVP session.
Interface family	family inet family mpls family ccc	The logical units of the core interfaces are configured to belong to both family inet and family mpls. The logical unit of the customer edge interface is configured to belong to family ccc.
Customer-edge interface	ge-0/0/1	Interface that connects this network to devices outside the network.
Core interfaces	ge-0/0/5.0 and ge-0/0/6.0 with IP addresses 10.1.5.1/24 and 10.1.6.1/24	Interfaces that connect to other switches within the MPLS network.
CCC definition	connections remote-interface-switch ge-1-to-pe2 interface ge-0/0/1.0 transmit-lsp lsp_to_pe2_ge1 receive-lsp lsp_to_pe1_ge1	Associates the circuit cross-connect (CCC), ge-0/0/1, with the LSPs that have been defined on the local and remote provider edge switches.

Table 2 shows the MPLS configuration components used for the egress provider edge switch in this example.

Table 2: Components of the Egress PE Switch in Topology for MPLS with Interface-Based CCC

Property	Settings	Description
Remote provider edge switch hardware	EX-series switch	PE-2
Loopback address	lo0 127.1.1.3/32	Identifies PE-2 for interswitch communications.
Routing protocol	ospf traffic-engineering	Indicates that this switch is using OSPF as the routing protocol and that traffic engineering is enabled.
MPLS protocol and definition of label-switched path	mpls label-switched-path lsp_to_pe1_ge1 to 127.1.1.1	Indicates that this provider edge switch is using the MPLS protocol with the specified label switched path (LSP) to reach the other PE switch. The statement must also specify the core interfaces to be used for MPLS traffic.
RSVP protocol	rsvp	Indicates that this switch is using the RSVP protocol. The statement must specify the loopback address and the core interfaces that are going to be used for the RSVP session.
Interface family	family inet family mpls family ccc	The logical unit of the core interface is configured to belong to both family inet and family mpls. The logical unit of the customer edge interface is configured to belong to family ccc.
Customer-edge interface	ge-0/0/1	Interface that connects this network to devices outside the network.
Core interface	ae0 with IP address 10.1.9.2/24	Aggregated Ethernet interface on PE-2 that connects to aggregated Ethernet interface ae0 of the provider switch and belongs to family mpls.
CCC definition	connections remote-interface-switch ge-1-to-pe1 interface ge-0/0/1.0 transmit-lsp lsp_to_pe1_ge1; receive-lsp lsp_to_pe2_ge1;	Associates the circuit cross-connect (CCC), ge-0/0/1, with the LSPs that have been defined on the local and remote provider edge switches.

Table 3 shows the MPLS configuration components used for the provider switch in this example.

Table 3: Components of the Provider Switch in Topology for MPLS with Interface-Based CCC

Property	Settings	Description
Provider switch hardware	EX-series switch	Transit switch within the MPLS network configuration.
Loopback address	lo0 127.1.1.2/32	Identifies provider switch for interswitch communications.
Routing protocol	ospf traffic-engineering	Indicates that this switch is using OSPF as the routing protocol and that traffic engineering is enabled.
MPLS protocol	mpls	Indicates that this switch is using the MPLS protocol. The statement must specify the core interfaces that are going to be used for MPLS traffic.
RSVP protocol	rsvp	Indicates that this switch is using the RSVP protocol. The statement must specify the loopback address and the core interfaces that are going to be used for the RSVP session.
Interface family	family inet family mpls	The logical units for the loopback address and core interfaces belong to family inet. The logical units of the core interfaces are also configured to belong to family mpls.
Core interfaces	ge-0/0/5.0 and ge-0/0/6.0 with IP addresses 10.1.5.1/24 and 10.1.6.1/24 and ae0 with IP address 10.1.9.1/24	Interfaces that connect P to PE-1. Aggregated Ethernet interface on P that connects to aggregated Ethernet interface ae0 of PE-2.

Configuring the Local Provider Edge Switch

CLI Quick Configuration To quickly configure the local provider edge switch, copy the following commands and paste them into the switch terminal window of PE-1:

```
[edit]
set protocols ospf traffic-engineering
set protocols ospf area 0.0.0.0 interface lo0.0
set protocols ospf area 0.0.0.0 interface ge-0/0/5.0
set protocols ospf area 0.0.0.0 interface ge-0/0/6.0
set protocols mpls label-switched-path lsp_to_pe2_ge1 to 127.1.1.3
set protocols mpls interface ge-0/0/5.0
```

```
set protocols mpls interface ge-0/0/6.0
set protocols rsvp interface lo0.0
set protocols rsvp interface ge-0/0/5.0
set protocols rsvp interface ge-0/0/6.0
set interfaces lo0 unit 0 family inet address 127.1.1.1/32
set interfaces ge-0/0/5 unit 0 family inet address 10.1.5.1/24
set interfaces ge-0/0/6 unit 0 family inet address 10.1.6.1/24
set interfaces ge-0/0/5 unit 0 family mpls
set interfaces ge-0/0/6 unit 0 family mpls
set interfaces ge-0/0/1 unit 0 family ccc
set protocols connections remote-interface-switch ge-1-to-pe2 interface ge-0/0/1.0
set protocols connections remote-interface-switch ge-1-to-pe2 transmit-lsp
lsp_to_pe2_ge1
set protocols connections remote-interface-switch ge-1-to-pe2 receive-lsp
lsp_to_pe1_ge1
```

Step-by-Step Procedure To configure the ingress provider edge switch:

1. Configure OSPF with traffic engineering enabled:

```
[edit protocols]
user@switchPE-1# set ospf traffic-engineering
```

2. Configure OSPF on the loopback address and core interfaces:

```
[edit protocols]
user@switchPE-1# set ospf area 0.0.0.0 interface lo0.0
user@switchPE-1# set ospf area 0.0.0.0 interface ge-0/0/5.0
user@switchPE-1# set ospf area 0.0.0.0 interface ge-0/0/6.0
```

3. Configure MPLS on the switch with a label switched path to the remote provider edge switch:

```
[edit protocols]
user@switchPE-1# set mpls label-switched-path lsp_to_pe2_ge1 to 127.1.1.3
```

4. Configure MPLS on the core interfaces:

```
[edit protocols]
user@switchPE-1# set mpls interface ge-0/0/5.0
user@switchPE-1# set mpls interface ge-0/0/6.0
```

5. Configure RSVP on the loopback address and core interfaces:

```
[edit protocols]
user@switchPE-1# set rsvp interface lo0.0
user@switchPE-1# set rsvp interface ge-0/0/5.0
user@switchPE-1# set rsvp interface ge-0/0/6.0
```

6. Configure IP addresses for the loopback and core interfaces:

```
[edit]
user@switchPE-1# set interfaces lo0 unit 0 family inet address 127.1.1.1/32
user@switchPE-1# set interfaces ge-0/0/5 unit 0 family inet address
10.1.5.1/24
user@switchPE-1# set interfaces ge-0/0/6 unit 0 family inet address
10.1.6.1/24
```

7. Configure family mpls on the logical unit of the core interface addresses:

```
[edit]
user@switchPE-1# set interfaces ge-0/0/5 unit 0 family mpls
user@switchPE-1# set interfaces ge-0/0/6 unit 0 family mpls
```

9. Configure the logical unit of the customer-edge interface as a CCC:

```
[edit interfaces ge-0/0/1 unit 0]
user@PE-1# set family ccc
```

10. Configure the interface-based CCC from PE-1 to PE-2:

NOTE: You can also configure a tagged VLAN interface as a CCC. See Configuring MPLS on Provider Edge Switches (CLI Procedure).

```
[edit protocols]
user@PE-1# set connections remote-interface-switch ge-1-to-pe2 interface
ge-0/0/1.0
user@PE-1# set connections remote-interface-switch ge-1-to-pe2 transmit-lsp
lsp_to_pe2_ge1
user@PE-1# set connections remote-interface-switch ge-1-to-pe2 receive-lsp
lsp_to_pe1_ge1
```

Results Display the results of the configuration:

```
user@switchPE-1> show configuration

  interfaces {
    ge-0/0/1 {
      unit 0 {
        family ccc;
      }
    }
    ge-0/0/5 {
      unit 0 {
        family inet {
          address 10.1.5.1/24;
        }
        family mpls;
```

```
        }
      }
      ge-0/0/6 {
        unit 0 {
          family inet {
            address 10.1.6.1/24;
          }
          family mpls;
        }
      }
      lo0 {
        unit 0 {
          family inet {
            address 127.1.1.1/32;
          }
        }
      }
    protocols {
      rsvp {
        interface lo0.0;
        interface ge-0/0/5.0;
        interface ge-0/0/6.0;
      }
      mpls {
        label-switched-path lsp_to_pe2_ge1 {
          to 127.1.1.3;
        }
        interface ge-0/0/5.0;
        interface ge-0/0/6.0;
      }
      ospf {
        traffic-engineering;
        area 0.0.0.0 {
          interface lo0.0;
          interface ge-0/0/5.0;
          interface ge-0/0/6.0;
        }
      }
      connections {
        remote-interface-switch ge-1-to-pe2 {
          interface ge-0/0/1.0;
          transmit-lsp lsp_to_pe2_ge1;
          receive-lsp lsp_to_pe1_ge1;
        }
      }
```

Configuring the Remote Provider Edge Switch

CLI Quick Configuration To quickly configure the remote provider edge switch, copy the following commands and paste them into the switch terminal window of PE-2:

```
[edit]
set protocols ospf traffic-engineering
set protocols ospf area 0.0.0.0 interface lo0.0
set protocols ospf area 0.0.0.0 interface ae0
```

```
set protocols mpls label-switched-path lsp_to_pe1_ge1 to 127.1.1.1
set protocols mpls interface ae0
set protocols rsvp interface lo0.0
set protocols rsvp interface ae0
set interfaces lo0 unit 0 family inet address 127.1.1.3/32
set interfaces ae0 unit 0 family inet address 10.1.9.2/24
set interfaces ae0 unit 0 family mpls
set interfaces ge-0/0/1 unit 0 family ccc
set protocols connections remote-interface-switch ge-1-to-pe1 interface ge-0/0/1.0
set protocols connections remote-interface-switch ge-1-to-pe1 transmit-lsp
lsp_to_pe1_ge1
set protocols connections remote-interface-switch ge-1-to-pe1 receive-lsp
lsp_to_pe2_ge1
```

Step-by-Step Procedure To configure PE-2:

1. Configure OSPF with traffic engineering enabled:

```
[edit protocols]
user@switchPE-2# set ospf traffic-engineering
```

2. Configure OSPF on the loopback address and core interface of PE-2:

```
[edit protocols]
user@switchPE-2# set ospf area 0.0.0.0 interface lo0.0
user@switchPE-2# set ospf area 0.0.0.0 interface ae0
```

3. Configure MPLS on the switch with a label switched path to the remote provider edge switch:

```
[edit protocols]
user@switchPE-2# set mpls label-switched-path lsp_to_pe1_ge1 to 127.1.1.1
```

4. Configure MPLS on the core interface:

```
[edit protocols]
user@switchPE-2# set mpls interface ae0
```

5. Configure RSVP on the loopback address and core interface of PE-2:

```
[edit protocols]
ser@switchPE-2# set rsvp interface lo0.0
user@switchPE-2# set rsvp interface ae0
```

6. Configure IP addresses for the loopback and core interfaces:

```
[edit]
user@switchPE-2# set interfaces lo0 unit 0 family inet address 127.1.1.3/32
user@switchPE-2# set interfaces ae0 unit 0 family inet address 10.1.9.2/24
```

7. Configure family mpls on the logical unit of the core interface address of PE-2:

```
[edit]
user@switchPE-2# set interfaces ae0 unit 0 family mpls
```

8. Configure the logical unit of the customer-edge interface as a CCC:

```
[edit interfaces ge-0/0/1 unit 0]
user@PE-2# set family ccc
```

9. Configure the interface-based CCC from PE-2 to PE-1:

```
[edit protocols]
user@PE-2# set connections remote-interface-switch ge-1-to-pe2 interface
ge-0/0/1.0
user@PE-2# set connections remote-interface-switch ge-1-to-pe2 transmit-lsp
lsp_to_pe1_ge1
user@PE-2# set connections remote-interface-switch ge-1-to-pe2 receive-lsp
lsp_to_pe2_ge1
```

Results Display the results of the configuration:

```
user@switchPE-2> show configuration
```

```
interfaces {
    ge-0/0/1 {
        unit 0 {
            family ccc;
        }
    }
    ae0 {
        unit 0 {
            family inet {
                address 10.1.9.2/24;
            }
            family mpls;
        }
    }
    lo0 {
        unit 0 {
            family inet {
                address 127.1.1.3/32;
            }
        }
    }
}
protocols {
    rsvp {
        interface lo0.0;
        interface ae0.0;
    }
    mpls {
        label-switched-path lsp_to_pe1_ge1 {
            to 127.1.1.1;
        }
        interface ae0.0;
    }
    ospf {
```

```
        traffic-engineering;
        area 0.0.0.0 {
            interface ae0.0;
        }
    }
    connections {
        remote-interface-switch ge-1-to-pe1 {
            interface ge-0/0/1.0;
            transmit-lsp lsp_to_pe1_ge1;
            receive-lsp lsp_to_pe2_ge1;
        }
    }
}
```

Configuring the Provider Switch

CLI Quick Configuration To quickly configure the provider switch, copy the following commands and paste them into the switch terminal window:

```
[edit]
set protocols ospf traffic-engineering
set protocols ospf area 0.0.0.0 interface lo0.0
set protocols ospf area 0.0.0.0 interface ge-0/0/5.0
set protocols ospf area 0.0.0.0 interface ge-0/0/6.0
set protocols ospf area 0.0.0.0 interface ae0
set protocols mpls interface ge-0/0/5.0
set protocols mpls interface ge-0/0/6.0
set protocols mpls interface ae0
set protocols rsvp interface lo0.0
set protocols rsvp interface ge-0/0/5.0
set protocols rsvp interface ge-0/0/6.0
set protocols rsvp interface ae0
set interfaces lo0 unit 0 family inet address 127.1.1.2/32
set interfaces ge-0/0/5 unit 0 family inet address 10.1.5.1/24
set interfaces ge-0/0/6 unit 0 family inet address 10.1.6.1/24
set interfaces ae0 unit 0 family inet address 10.1.9.1/24
set interfaces ge-0/0/5 unit 0 family mpls
set interfaces ge-0/0/6 unit 0 family mpls
set interfaces ae0 unit 0 family mpls
```

Step-by-Step Procedure To configure the provider switch:

1. Configure OSPF with traffic engineering enabled:

```
[edit protocols]
user@switchP# set ospf traffic-engineering
```

2. Configure OSPF on the loopback and core interfaces:

```
[edit protocols]
user@switchP# set ospf area interface lo0.0
user@switchP# set ospf area interface ae0
```

3. Configure MPLS on the core interfaces on the switch:

```
[edit protocols]
user@switchP# set mpls interface ge-0/0/5
user@switchP# set mpls interface ge-0/0/6
user@switchP# set mpls interface ae0
```

4. Configure RSVP on the loopback address and core interfaces:

```
[edit protocols]
user@switchP# set rsvp interface lo0.0
user@switchP# set rsvp interface ge-0/0/5
user@switchP# set rsvp interface ge-0/0/6
user@switchP# set rsvp interface ae0
```

5. Configure IP addresses for the loopback and core interfaces:

```
[edit]
user@switchP# set interfaces lo0 unit 0 family inet address 127.1.1.2/32
user@switchP# set interfaces ge-0/0/5 unit 0 family inet address
10.1.5.1/24
user@switchP# set interfaces ge-0/0/6 unit 0 family inet address
10.1.6.1/24
user@switchP# set interfaces ae0 unit 0 family inet address 10.1.9.1/24
```

6. Configure family mpls on the logical unit of the core interface addresses:

```
[edit]
user@switchP# set interfaces ge-0/0/5 unit 0 family mpls
user@switchP# set interfaces ge-0/0/6 unit 0 family mpls
user@switchP# set interfaces ae0 unit 0 family mpls
```

Results Display the results of the configuration:

```
user@switchP> show configuration

  interfaces {
    ge-0/0/5 {
      unit 0 {
        family inet {
          address 10.1.5.1/24;
        }
        family mpls;
        }
      }
    ge-0/0/6 {
      unit 0 {
        family inet {
          address 10.1.6.1/24;
        }
        family mpls;
        }
      }
    }
```

```
    ae0 {
      unit 0 {
        family inet {
          address 10.1.9.1/24;
        }
        family mpls;
      }
    }
    lo0 {
      unit 0 {
        family inet {
          address 127.1.1.2/32;
        }
      }
    }
  protocols {
    rsvp {
      interface lo0.0;
      interface ge-0/0/5.0;
      interface ge-0/0/6.0;
      interface ae0.0;
    }
    mpls {
      interface ge-0/0/5.0;
      interface ge-0/0/6.0;
      interface ae0.0;
    }
    ospf {
      traffic-engineering;
      area 0.0.0.0 {
        interface lo0.0;
        interface ge-0/0/5.0;
        interface ge-0/0/6.0;
        interface ae0.0;
      }
    }
```

Verification

To confirm that the configuration is working properly, perform these tasks:

Verifying the Physical Layer on the Switches

Purpose Verify that the interfaces are up. Perform this verification task on each of the switches.

Action

```
user@switchPE-1> show interfaces terse

Interface               Admin Link Proto    Local                 Remote
ge-0/0/0                up    up
ge-0/0/0.0              up    up
ge-0/0/1.0              up    up   ccc
ge-0/0/2.0              up    up   eth-switch
ge-0/0/3.0              up    up   eth-switch
ge-0/0/4.0              up    up   eth-switch
ge-0/0/5.0              up    up   inet      10.1.5.1/24
            mpls
ge-0/0/6.0              up    up   inet      10.1.6.1/24
            mpls
```

Meaning The show interfaces terse command displays status information about the Gigabit Ethernet interfaces on the switch. This output verifies that the interfaces are up. The output for the protocol family (Proto column) shows that interface ge-0/0/0.1 is configured as a circuit cross-connect. The output for the protocol family of the core interfaces (ge-0/0/0.5 and ge-0/0/0.6), shows that these interfaces are configured as both inet and mpls. The Local column for the core interfaces shows the IP address configured for these interfaces.

Verifying the Routing Protocol

Purpose Verify the state of the configured routing protocol. Perform this verification task on each of the switches. The state should be Full.

Action

```
user@switchPE-1> show ospf neighbor

Address          Interface              State     ID               Pri  Dead
127.1.1.2          ge–0/0/5              Full     10.10.10.10      128    39
```

Meaning The show ospf neighbor command displays the status of the routing protocol. This output shows that the state is Full, meaning that the routing protocol is operating correctly—that is, hello packets are being exchanged between directly connected neighbors.

Verifying the Core Interfaces Being Used for the MPLS Traffic

Purpose Verify that the state of the MPLS interface is Up. Perform this verification task on each of the switches.

Action

```
user@switchPE-1> show mpls interface

Interface        State       Administrative groups
ge–0/0/5            Up          <none>
ge–0/0/6            Up          <none>
```

Meaning The show mpls interface command displays the status of the core interfaces that have been configured to belong to family mpls. This output shows that the interface configured to belong to family mpls is Up.

Verifying RSVP

Purpose Verify the state of the RSVP session. Perform this verification task on each of the switches.

Action

```
user@switchPE-1> show rsvp session

Ingress RSVP: 1 sessions
To              From            State   Rt Style Labelin Labelout LSPname
127.1.13        127.1.1.1         Up      0  1 FF       -   300064 lsp_to_pe2_ge1
Total 1 displayed, Up 1, Down 0

Egress RSVP: 1 sessions
To              From            State   Rt Style Labelin Labelout LSPname
127.1.1.1         127.1.1.3         Up       0  1 FF  299968        -
lsp_to_pe1_ge1
Total 1 displayed, Up 1, Down 0

Transit RSVP: 0 sessions
Total 0 displayed, Up 0, Down 0
```

Meaning This output confirms that the RSVP sessions are Up.

Verifying the Assignment of Interfaces for MPLS Label Operations

Purpose Verify which interface is being used as the beginning of the CCC and which interface is being used to push the MPLS packet to the next hop. Perform this task only on the provider edge switches.

Action

```
user@switchPE-1> show route forwarding-table family mpls
MPLS:
Destination        Type RtRef Next hop           Type Index NhRef Netif
default            perm     0                    dscd    50     1
0                  user     0                    recv    49     3
1                  user     0                    recv    49     3
2                  user     0                    recv    49     3
299776             user     0                   Pop     541     2 ge-0/0/1.0
ge-0/0/1.0  (CCC)  user     0 2.0.0.1           Push 299792   540 2   ge-0/0/5.0
```

Meaning This output shows that the CCC has been set up on interface ge-0/0/1.0. The switch receives ingress traffic on ge-0/0/1.0 and pushes label 299792 onto the packet, which goes out through interface ge-0/0/5.0. The output also shows when the switch receives an MPLS packet with label 29976, it pops the label and sends the packet out through interface ge-0/0/1.0

After you have checked the local provider edge switch, run the same command on the remote provider edge switch.

Verifying the Status of the CCC

Purpose Verify the status of the CCC. Perform this task only on the provider edge switches.

Action

```
user@switchPE-1> show connections
```

```
CCC and TCC connections [Link Monitoring On]
Legend for status (St)              Legend for connection types
UN -- uninitialized                 if-sw:  interface switching
NP -- not present                   rmt-if: remote interface switching
WE -- wrong encapsulation           lsp-sw: LSP switching
DS -- disabled                      tx-p2mp-sw: transmit P2MP switching
Dn -- down                          rx-p2mp-sw: receive P2MP switching
-> -- only outbound conn is up
 <- -- only inbound  conn is up      Legend for circuit types
Up -- operational                   intf -- interface
RmtDn -- remote CCC down            tlsp -- transmit LSP
Restart -- restarting               rlsp -- receive LSP


Connection/Circuit               Type        St      Time last up     # Up trans
ge1-to-pe2                        rmt-if      Up      Feb 17 05:00:09  1
  ge-0/0/1.0                       intf       Up
  lsp_to_pe1_ge1                     tlsp     Up
  lsp_to_pe2_ge1                     rlsp     Up
```

Meaning The show connections command displays the status of the CCC connections. This output verifies that the CCC interface and its associated transmit and receive LSPs are Up. After you have checked the local provider edge switch, run the same command on the remote provider edge switch.

Related Topics

- Configuring MPLS on Provider Edge Switches (CLI Procedure)
- Configuring MPLS on Provider Switches (CLI Procedure)
- JUNOS MPLS for EX-series Switches Overview
- For information on the interface statement for OSPF, see the *JUNOS Software Routing Protocols Configuration Guide* at http://www.juniper.net/techpubs/software/junos/junos95/index.html.