

Example: Layer 2 Port Mirroring at a Logical Interface

The following steps describe an example in which the global port-mirroring instance and a port-mirroring firewall filter are used to configure Layer 2 port mirroring for the input to a logical interface.

1. Configure the bridge domain `example-bd-with-analyzer`, which contains the external packet analyzer, and the bridge domain `example-bd-with-traffic`, which contains the source and destination of the Layer 2 traffic being mirrored:

```
[edit]
bridge-domains {
  example-bd-with-analyzer { # Contains an external traffic analyzer
    vlan-id 1000;
    interface ge-2/0/0.0; # External analyzer
  }
  example-bd-with-traffic { # Contains traffic input and output interfaces
    vlan-id 1000;
    interface ge-2/0/6.0; # Traffic input port
    interface ge-3/0/1.2; # Traffic output port
  }
}
```

Assume that logical interface `ge-2/0/0.0` is associated with an external traffic analyzer that is to receive port-mirrored packets. Assume that logical interfaces `ge-2/0/6.0` and `ge-3/0/1.2` will be traffic input and output ports, respectively.

2. Configure Layer 2 port-mirroring for the global instance, with the port-mirroring destination being the bridge domain interface associated with the external analyzer (logical interface `ge-2/0/0.0` on bridge domain `example-bd-with-analyzer`). Be sure to enable the option that allows filters to be applied to this port-mirroring destination:

```
[edit]
forwarding-options {
  port-mirroring {
    input {
      rate 10;
      run-length 5;
    }
    family bridge {
      output {
        interface ge-2/0/0.0; # Mirror packets to the external analyzer
        no-filter-check; # Allow filters on the mirror destination interface
      }
    }
  }
}
```

The `input` statement at the `[edit forwarding-options port-mirroring]` hierarchy level specifies that sampling begins every tenth packet and that each of the first five packets selected are to be mirrored.

The `output` statement at the `[edit forwarding-options port-mirroring family bridge]` hierarchy level specifies the output mirror interface for Layer 2 packets in a bridging environment:

- Logical interface `ge-2/0/0.0`, which is associated with the external packet analyzer, is configured as the port-mirroring destination.
- The optional `no-filter-check` statement allows filters to be configured on this destination interface.

3. Configure the Layer 2 port-mirroring firewall filter `example-bridge-pm-filter`:

```
[edit]
firewall {
  family bridge {
    filter example-bridge-pm-filter {
      term example-filter-terms {
        then {
          accept;
          port-mirror;
        }
      }
    }
  }
}
```

When this firewall filter is applied to the input or output of a logical interface for traffic in a bridging environment, Layer 2 port mirroring is performed according to the input packet-sampling properties and mirror destination properties configured for the Layer 2 port mirroring global instance. Because this firewall filter is configured with the single, default filter action `accept`, all packets selected by the input properties (`rate = 10` and `run-length = 5`) match this filter.

4. Configure the logical interfaces:

```
[edit]
interfaces {
  ge-2/0/0 { # Define the interface to the external analyzer
    encapsulation ethernet-bridge;
    unit 0 {
      family bridge;
    }
  }
  ge-2/0/6 { # Define the traffic input port
    flexible-vlan-tagging;
    encapsulation extended-vlan-bridge;
    unit 0 {
      vlan-id 100;
      family bridge {
        filter {
          input example-bridge-pm-filter; # Apply the port-mirroring firewall filter
        }
      }
    }
  }
  ge-3/0/1 { # Define the traffic output port
    flexible-vlan-tagging;
    encapsulation extended-vlan-bridge;
  }
}
```

```
    unit 2 {
        vlan-tags outer 10 inner 20;
        family bridge;
    }
}
```

Packets received at logical interface `ge-2/0/6.0` on bridge domain `example-bd-with-traffic` are evaluated by the port-mirroring firewall filter `example-bridge-pm-filter`. The firewall filter acts on the input traffic according to the filter actions configured in the firewall filter itself plus the input packet-sampling properties and mirror destination properties configured in the global port-mirroring instance:

- All packets received at `ge-2/0/6.0` are forwarded to their (assumed) normal destination at logical interface `ge-3/0/1.2`.
- For every ten input packets, copies of the first five packets in that selection are forwarded to the external analyzer at logical interface `ge-0/0/0.0` in the other bridge domain, `example-bd-with-analyzer`.

If you configure the port-mirroring firewall filter `example-bridge-pm-filter` to take the `discard` action instead of the `accept` action, all original packets are discarded while copies of the packets selected using the global port-mirroring input properties are sent to the external analyzer.

- Related Topics**
- Layer 2 Port Mirroring Overview
 - Layer 2 Port Mirroring Firewall Filters
 - Defining a Layer 2 Port-Mirroring Firewall Filter

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