

Example: Configuring IP Directed Broadcast on an EX-series Switch

IP directed broadcast provides a method of sending broadcast packets to hosts on a specified subnet without broadcasting those packets to hosts on the entire network.

This example shows how to enable a subnet to receive IP directed broadcast packets so you can perform backups and other network management tasks remotely:

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Requirements

This example uses the following software and hardware components:

- JUNOS Release 9.4 or later for EX-series switches
- One PC
- One EX-series switch

Before you configure IP directed broadcast for a subnet:

- Ensure that the subnet does not have a direct connection to the Internet.
- Configure routed VLAN interfaces (RVIs) for the ingress and egress VLANs on the switch. See [Configuring Routed VLAN Interfaces \(CLI Procedure\)](#) or [Configuring VLANs for EX-series Switches \(J-Web Procedure\)](#).

Overview and Topology

You might want to perform remote administration tasks such as backups and wake-on-LAN (WOL) application tasks to manage groups of clients on a subnet. One way to do this is to send IP directed broadcast packets targeted at the hosts in a particular target subnet.

The network forwards IP directed broadcast packets as if they were unicast packets. When the IP directed broadcast packet is received by a VLAN that is enabled for **targeted-broadcast**, the switch broadcasts the packet to all the hosts in its subnet.

In this topology (see Figure 1), a host is connected to an interface on an EX-series switch to manage the clients in subnet **10.1.2.1/24**. When the switch receives a packet with the broadcast IP address of the target subnet as its destination address, it forwards the packet to the subnet's Layer 3 interface and broadcasts it to all the hosts within the subnet.

Figure 1: Topology for IP Directed Broadcast

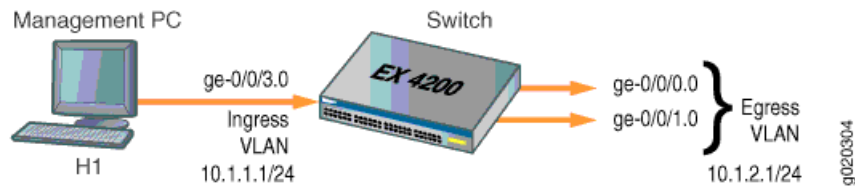


Table 1 shows the settings of the components in this example.

Table 1: Components of the IP Directed Broadcast Topology

Property	Settings
Switch hardware	EX-series switch
Ingress VLAN name	v0
Ingress VLAN IP address	10.1.1.1/24
Egress VLAN name	v1
Egress VLAN IP address	10.1.2.1/24
Interfaces in VLAN v0	ge-0/0/3.0
Interfaces in VLAN v1	ge-0/0/0.0 and ge-0/0/1.0

Configuration

To configure IP directed broadcast on a subnet to enable remote management of its hosts:

CLI Quick Configuration To quickly configure the switch to accept IP directed broadcasts targeted at subnet 10.1.2.1/24, copy the following commands and paste them into the switch's terminal window:

```
[edit]
set interfaces ge-0/0/0.0 family ethernet-switching vlan members v1
set interfaces ge-0/0/1.0 family ethernet-switching vlan members v1
set interfaces vlan.1 family inet address 10.1.2.1/24
set interfaces ge-0/0/3.0 family ethernet-switching vlan members v0
set interfaces vlan.0 family inet address 10.1.1.1/24
set vlans v1 13-interface vlan.1
set vlans v0 13-interface vlan.0
set interfaces vlan.1 family inet targeted-broadcast
```

Step-by-Step Procedure To configure the switch to accept IP directed broadcasts targeted at subnet 10.1.2.1/24:

1. Add logical interface `ge-0/0/0.0` to VLAN `v1`:

```
[edit interfaces]
user@switch# set ge-0/0/0.0 family ethernet-switching vlan members v1
```

2. Add logical interface `ge-0/0/1.0` to VLAN `v1`:

```
[edit interfaces]
user@switch# set ge-0/0/1.0 family ethernet-switching vlan members v1
```

3. Configure the IP address for the egress VLAN, `v1`:

```
[edit interfaces]
user@switch# set vlan.1 family inet address 10.1.2.1/24
```

4. Add logical interface `ge-0/0/3.0` to VLAN `v0`:

```
[edit interfaces]
user@switch# set ge-0/0/3.0 family ethernet-switching vlan members v0
```

5. Configure the IP address for the ingress VLAN:

```
[edit interfaces]
user@switch# set vlan.0 family inet address 10.1.1.1/24
```

6. To route traffic between the ingress and egress VLANs, associate a Layer 3 interface with each VLAN:

```
[edit vlans]
user@switch# set v1 l3-interface vlan.1
user@switch# set v0 l3-interface vlan.0
```

7. Enable the Layer 3 interface for the egress VLAN to receive IP directed broadcasts:

```
[edit interfaces]
user@switch# set vlan.1 family inet targeted-broadcast
```

Results Check the results:

```
user@switch# show
interfaces {
  ge-0/0/0 {
    unit 0 {
      family ethernet-switching {
        vlan {
          members v1;
        }
      }
    }
  }
}
```

```

    }
  }
}
ge-0/0/1 {
  unit 0 {
    family ethernet-switching {
      vlan {
        members v1;
      }
    }
  }
}
ge-0/0/3 {
  unit 0 {
    family ethernet-switching {
      vlan {
        members v0;
      }
    }
  }
}
vlan {
  unit 0 {
    family inet {
      targeted-broadcast;
      address 10.1.1.1/24;
    }
  }
  unit 1 {
    family inet {
      targeted-broadcast;
      address 10.1.2.1/24;
    }
  }
}
vpls {
  default;
  v0 {
    l3-interface vlan.0;
  }
  v1 {
    l3-interface vlan.1;
  }
}
}

```

Related Topics ■ [Configuring IP Directed Broadcast \(CLI Procedure\)](#)