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IP Directed Broadcast for Cisco 8000 Series Secure Routers using Cisco Meraki Dashboard

Feature history of IP directed broadcast

Table 1: Feature history: IP directed broadcast

Feature name	Release	Summary
IP Directed Broadcast	Cisco IOS-XE 26.2.1 Release	From this release, Cisco 8000 Series Secure Routers can be configured for IP Directed Broadcast support for VLANs and L3 LAN interfaces using Cisco Meraki Dashboard.

IP directed broadcast

An IP directed broadcast is an IP packet whose destination address is a valid broadcast address for an IP subnet but whose source is outside that destination subnet. A device that is not directly connected to the destination subnet forwards the packet in the same way it forwards a unicast packet destined for a host on that subnet. At the destination subnet, the packet is delivered to the subnet broadcast address.

The feature is configured per VLAN and per L3 LAN interface. `ip directed-broadcast` enables forwarding of directed broadcast traffic to the target subnet; and `ip network-broadcast` enables the interface to receive and accept network-prefix-directed broadcast packets.

The implementation of IP directed broadcast traffic requires distinct configurations on separate network interfaces:

- On the Ingress Interface (Traffic Entry): The ip network-broadcast command must be enabled on the incoming interface where the packet first lands. This allows the router to accept and process the network-prefix-directed broadcast packet rather than dropping it immediately.
- On the Egress Interface (Traffic Exit): The ip directed-broadcast command must be enabled on the outgoing interface that physically attaches to the target subnet. This instructs the router to convert the routed IP packet into a physical layer 2 broadcast on that specific local segment.

Prerequisites for IP directed broadcast

- Identify the VLAN or L3 LAN interface that should handle the directed broadcast.
- Ensure the target subnet and its broadcast address are known before enabling the feature.

IP directed broadcast configurations on Cisco Secure Routers

Note

The router configurations are not manually set on the router, instead, all the configurations are automatically pushed from the Cisco Meraki cloud.

Replace the interface identifier with the interface that hosts the target VLAN or L3 LAN configuration.

Ingress and egress interface configuration

```
--- Traffic Entry (Where the packet enters the router) ---
interface TwentyFiveGigE0/0/9
description Ingress Interface
ip network-broadcast
!
--- Traffic Exit (The target subnet destination) ---
interface TwentyFiveGigE0/0/10
description Egress Interface (Target Subnet)
ip directed-broadcast
```