

# Route Reflection Rules



## Basic Route Reflection Concepts

There are 3 types of device in Route Reflection:

- The Route Reflector (RR) itself
- Clients
- Non-clients

The concept of clients and non-clients is always *with respect to* the RR.

An iBGP full mesh is only required between RRs and between RRs and non-clients. Clients do not need a full mesh between them.

R Rs do not modify certain BGP path attributes during reflection including: NEXT\_HOP, AS\_PATH, LOCAL\_PREF and MED.

ORIGINATOR\_ID and CLUSTER\_LIST are used to prevent loops.

In Cisco CLI configuration, clients don't usually *know* they are clients. They will just see the RR as another neighbor. It is the RR that has the configuration referencing which neighbors are clients (***neighbor x route-reflector-client***).

## What kind of advertisements are reflections?

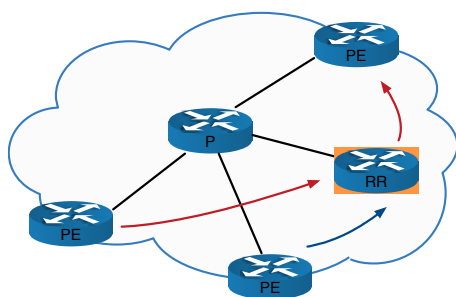
The term *reflection* refers to one of the follow advertisements

- Learned from client > sent to client
- Learned from client > sent to non-clients
- Learned from non-client > sent to client

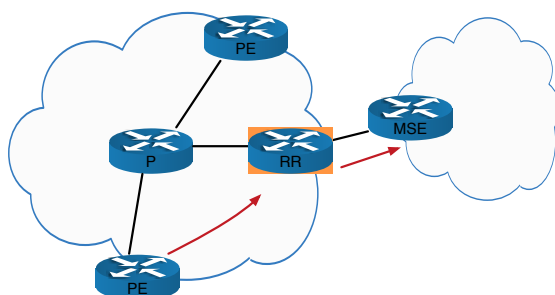
All other advertisements are just regular advertisements (i.e. not reflections)

## Route Reflections Rules

1. An RR advertise or reflects only its best path (to reduce BGP RIB in the domain)

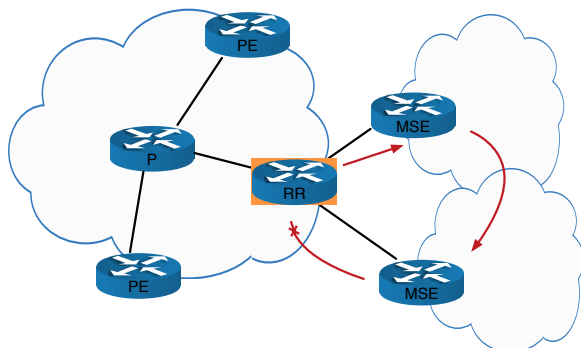


2. An RR always advertises to eBGP peers

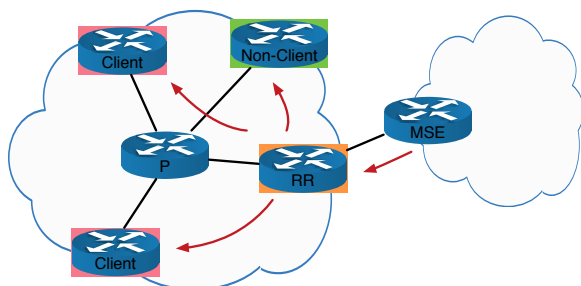




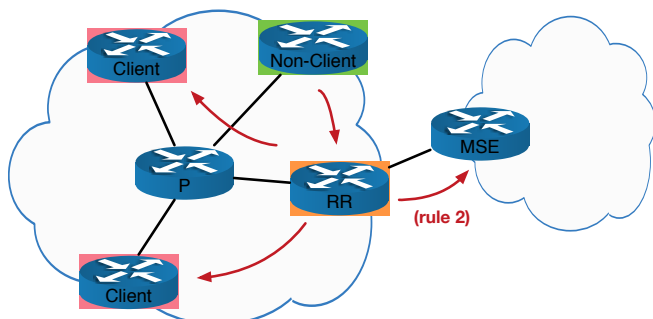
3. An RR client follows regular iBGP loop-prevention rules



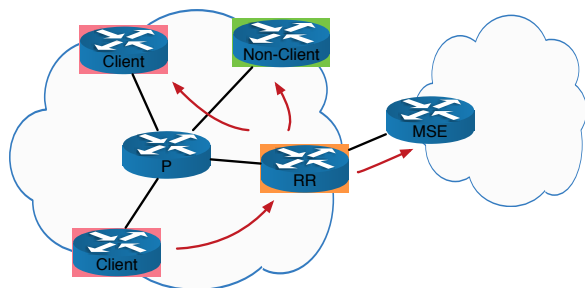
4. Prefix learned from eBGP peer it advertises clients and non-clients



5. Prefix learned from non-client reflected to clients



6. Prefix learned from client reflected to all other clients and non-clients



NB. If all clients are in the same peer group then the RR reflects the prefix to all clients *including* the client that sourced the prefix.