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Cisco Challenge Answer Guide

Challenge Number : 2

Solution

EIGRP neighbor relationships and subsequently routing can be accomplished by changing one line on each of the two routers.

on R1

```
interface Serial10/0/0:0
  frame-relay map ip 10.1.0.2 106 broadcast
```

on R2

```
interface Serial0/0/0
  frame-relay map ip 10.1.0.1 106 broadcast
```

Explanation

Frame relay is a non-broadcast transport technology. It was designed with the idea that links between locations would be point to point. Point to point links shouldn't need a broadcast address since there is only one possible destination. (Frame relay functionality changes a little on multipoint links, but that's outside the scope of this lab)

The problem here is that EIGRP uses multicast to detect neighbors and multicast is a form of broadcast. By adding the **broadcast** keyword to the end of the frame-relay map command, we tell the router that any broadcasts destined to leave this port should be sent to the device on the specified DLCI number.

In some cases, you may have multiple **frame-relay map** statements. Examples of this would be a hub and spoke type frame relay network. In such cases, you should only use the broadcast statement once per DLCI number to be most efficient with your bandwidth. Otherwise unnecessary packet duplication will occur.