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## ***Disclaimer***

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The following publication, ***CCIE Routing & Switching Troubleshooting Bootcamp***, is designed to assist candidates in the preparation for Cisco Systems' CCIE Routing & Switching Lab Exam. While every effort has been made to ensure that all material is as complete and accurate as possible, the enclosed material is presented on an "as is" basis. Neither the authors nor INE, Inc. assume any liability or responsibility to any person or entity with respect to loss or damages incurred from the information contained in this workbook.

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# Troubleshooting Guidelines

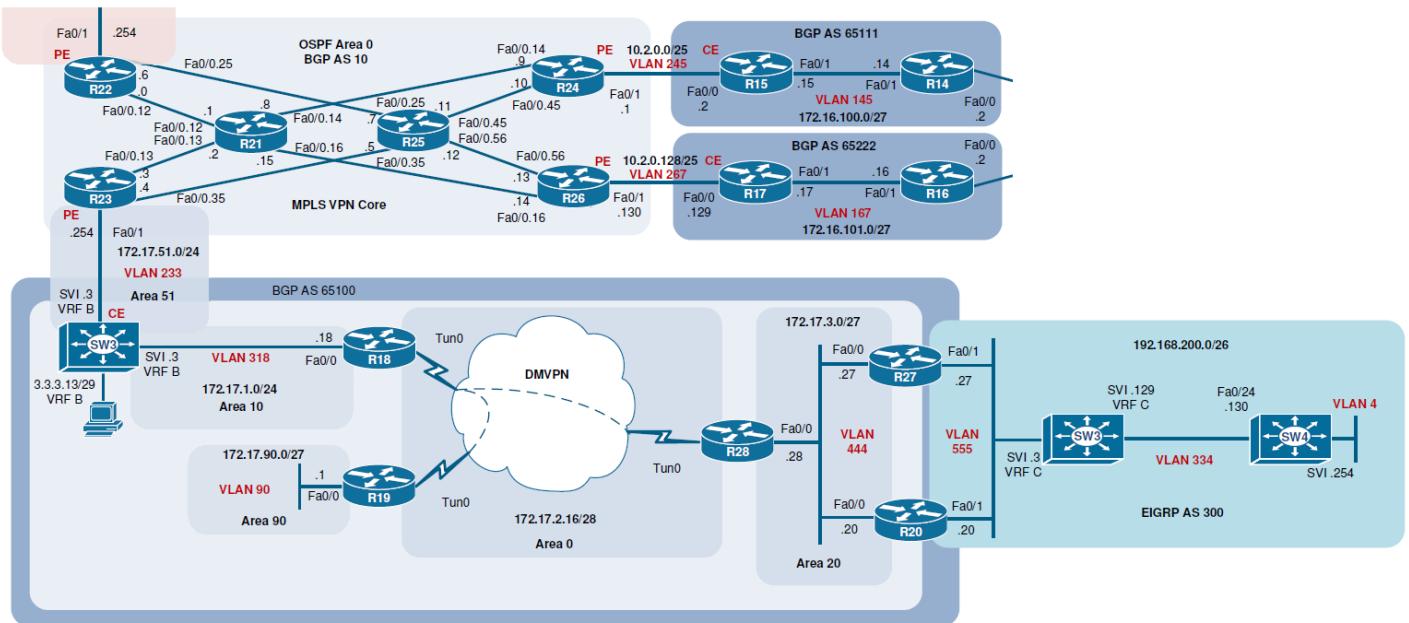
- Do not change the following configuration on any device:
  - Hostname
  - Enable password
  - Console or VTY configuration
- Use the password of "cisco" for any authentication.
- Points are awarded for finding and resolving faults in the topology. An inserted fault is an introduced break for a scenario that was previously working. Depending on the scenario, fixing inserted faults could require one or multiple command lines on the same or multiple devices.
- The resolution of one incident MAY depend on the resolution of previous incident(s). The dependency will not be visible if incidents are resolved in sequence.
- There are NO physical faults in the network.
- Do not change any routing protocol boundaries. Refer to the provided diagram.
- Do not remove any feature configured in order to resolve a ticket; you must resolve the issue rather than removing the configuration.
- Static, default routes or static mroutes are NOT permitted unless preconfigured.
- Routes to null0 that are generated as a result of a dynamic routing protocol solution are permitted.
- Routers do not need to ping themselves when verifying reachability.
- Tunneling and policy based routing is not permitted unless preconfigured.

# Lab 1 Trouble Tickets

**Required Diagram:** RS TS Lab 1 and 2 Topology

**Required Initial Configs:** RS TS Bootcamp Lab 1 - Initial

## Ticket 1



- Configure the network to match the output below:

```
Rack1SW4#trace 10.1.134.2
```

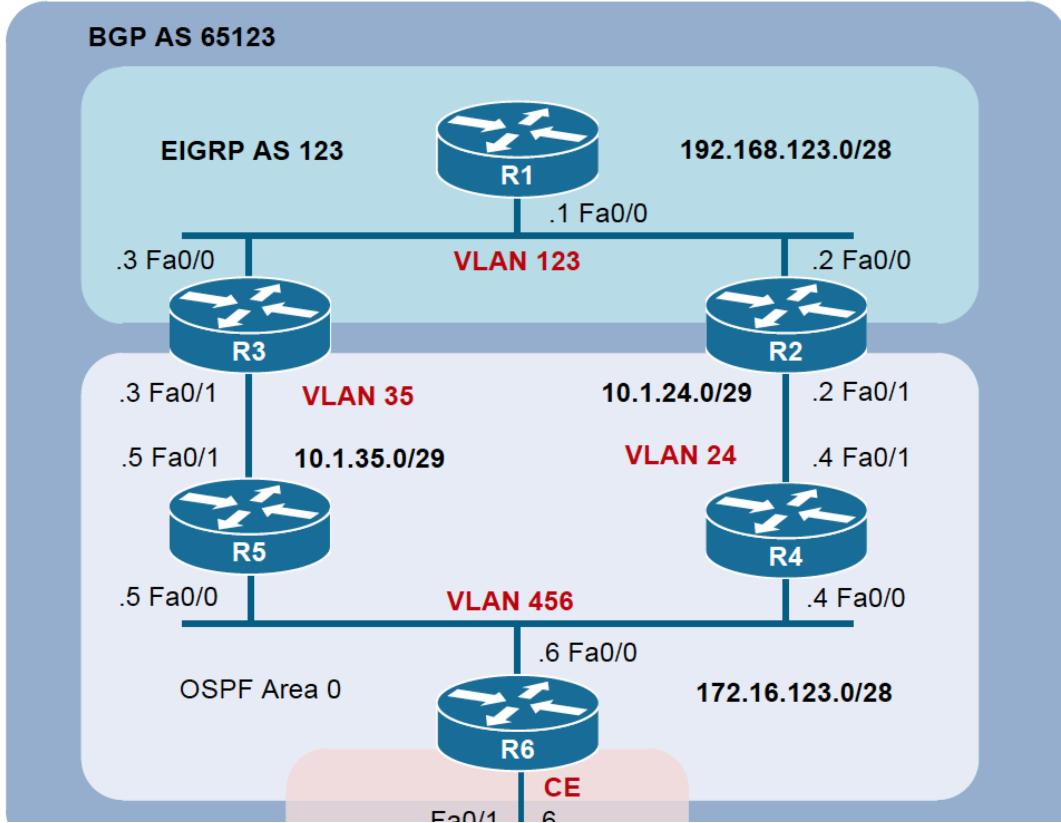
Type escape sequence to abort.  
Tracing the route to 10.1.134.2

```

1 192.168.200.129 0 msec 4 msec 4 msec
2 192.168.200.27 0 msec 4 msec 0 msec
3 172.17.3.28 4 msec 0 msec 4 msec
4 172.17.2.18 8 msec 8 msec 8 msec
5 172.17.1.3 12 msec 8 msec 8 msec
6 172.17.51.254 8 msec 16 msec 12 msec
7 10.2.0.1 16 msec 16 msec 16 msec
8 10.2.0.2 12 msec 8 msec 8 msec
9 172.16.100.14 12 msec 8 msec 8 msec
Rack1SW4#

```

**Score: 2 Points**

**Ticket 2**

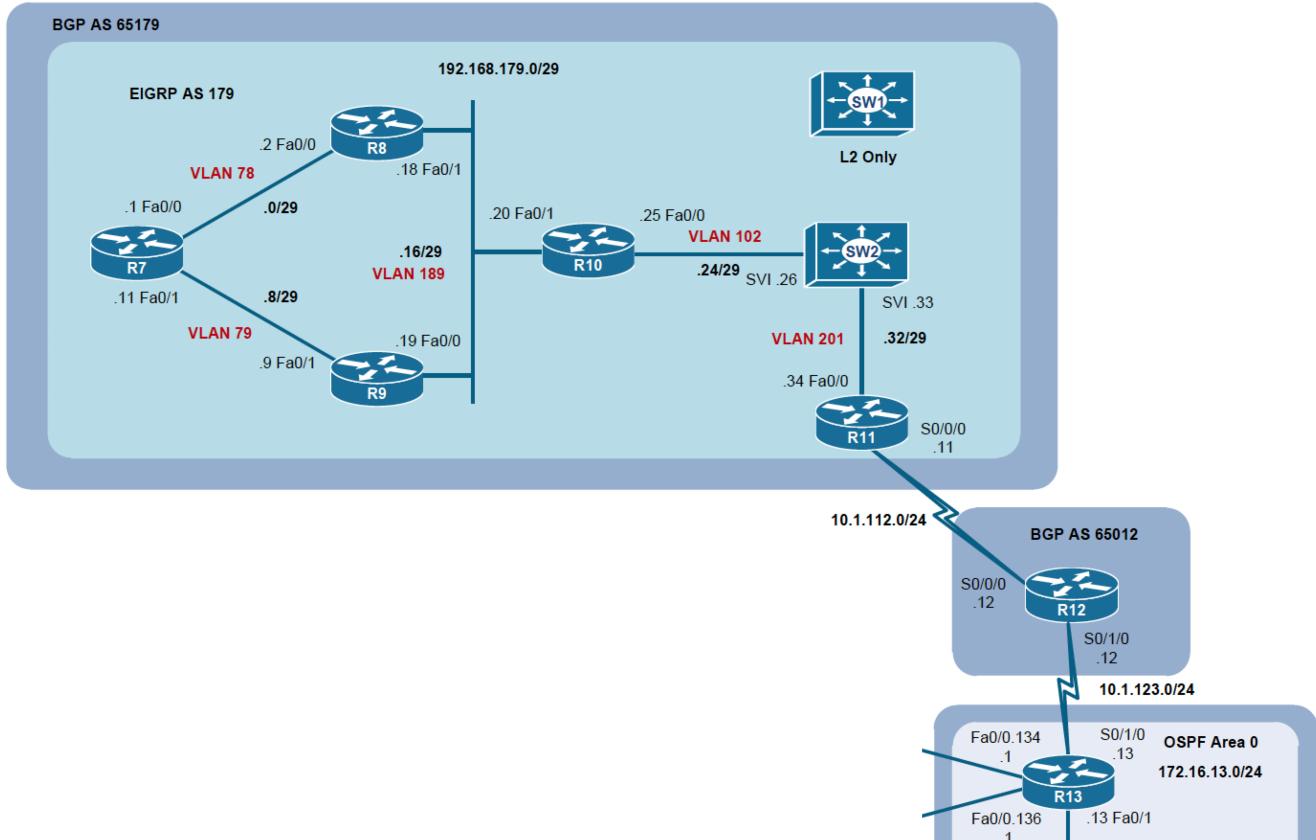
- Configure R2 and R3 to match the output below:

```
Rack1R2#trace 10.1.1.1
Type escape sequence to abort.
Tracing the route to 10.1.1.1
1 192.168.123.1 0 msec * 0 msec
Rack1R2#
```

```
Rack1R3#trace 10.1.1.1
Type escape sequence to abort.
Tracing the route to 10.1.1.1
1 192.168.123.1 0 msec * 0 msec
Rack1R3#
```

**Score: 2 Points**

## Ticket 3



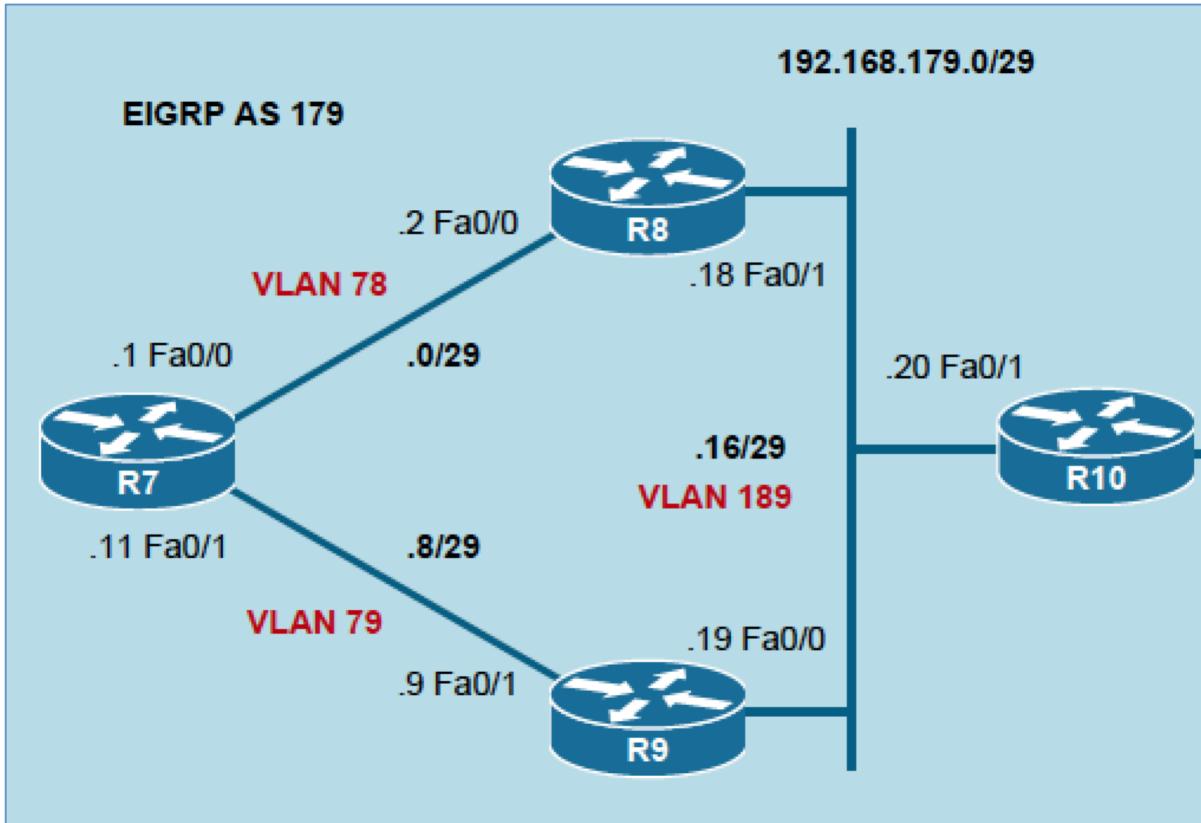
- Configure the network so that R13 can telnet to R7's Loopback 0 interface.

```
Rack1R13#telnet 10.1.1.7
Trying 10.1.1.7 ... Open
```

```
User Access Verification
```

```
Password:
Rack1R7>
```

**Score: 2 Points**

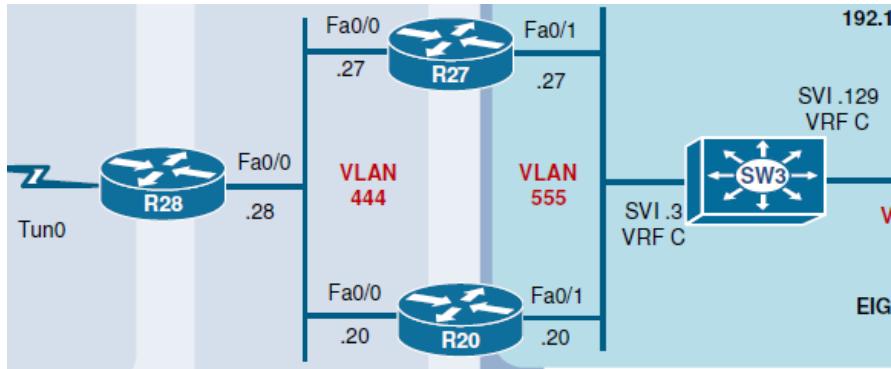
**Ticket 4**

- R8 is unable to form an EIGRP neighbor with R7. Resolve the issue to match the output below.

```
Rack1R8#show ip eigrp neighbors fa0/0
IP-EIGRP neighbors for process 179
          H   Address      Interface      Hold Uptime      SRTT      RTO      Q      Seq
          (sec)                    (sec)        (ms)           Cnt  Num
2     192.168.179.1    Fa0/0       13 00:03:54         3     200    0   36
Rack1R8#
```

- Do not make any changes on R8 to accomplish this task.

**Score: 3 Points**

**Ticket 5**

- Configure the OSPF domain to match the outputs below:

```
Rack1R28#show ip ospf data external 192.168.200.128
OSPF Router with ID (10.1.1.28) (Process ID 1)
Type-5 AS External Link States
Routing Bit Set on this LSA
LS age: 90
Options: (No TOS-capability, DC)
LS Type: AS External Link
Link State ID: 192.168.200.128 (External Network Number )
Advertising Router: 10.1.1.27
LS Seq Number: 80000004
Checksum: 0x8F3E
Length: 36
Network Mask: /26
Metric Type: 2 (Larger than any link state path)
TOS: 0
Metric: 20
Forward Address: 192.168.200.3
External Route Tag: 0
```

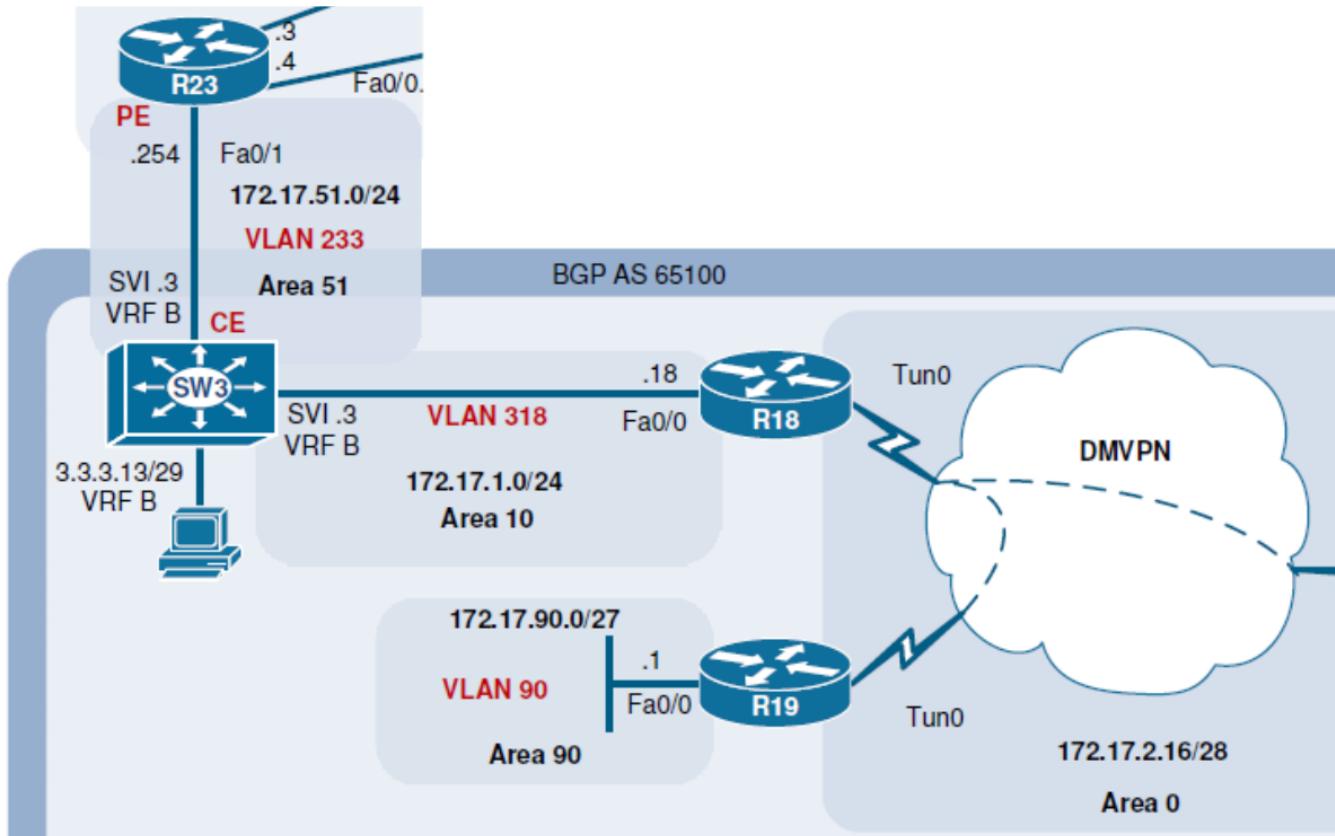
```
Rack1R28#trace 192.168.200.129
```

```
Type escape sequence to abort.
Tracing the route to 192.168.200.129
```

```
1 172.17.3.20 0 msec 0 msec 4 msec
2 192.168.200.3 0 msec * 0 msec
Rack1R28#
```

- The OSPF domain can be extended to accomplish this task if needed.

**Score: 2 Points**

**Ticket 6**

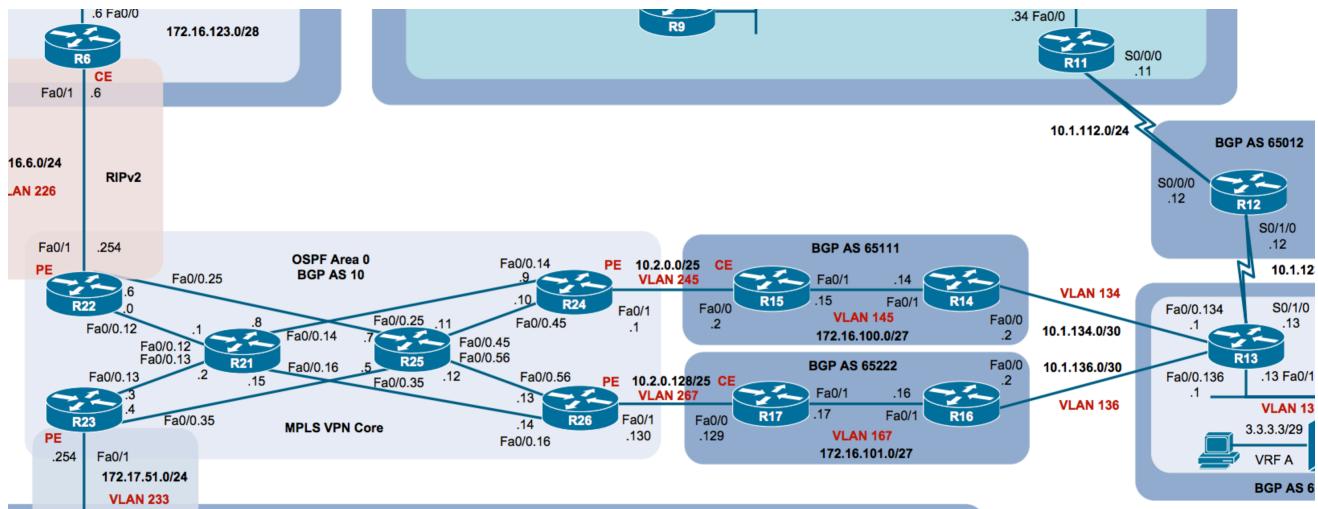
- Configure the network so that R19 can ping R23 Fa0/1.

```
Rack1#ping 172.17.51.254
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 172.17.51.254, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 16/16/16 ms
```

```
Rack1#
```

**Score: 2 Points**

**Ticket 7**

- R17 is unable to telnet to SW3's VLAN233 interface. Configure the network to allow the telnet to be successful.

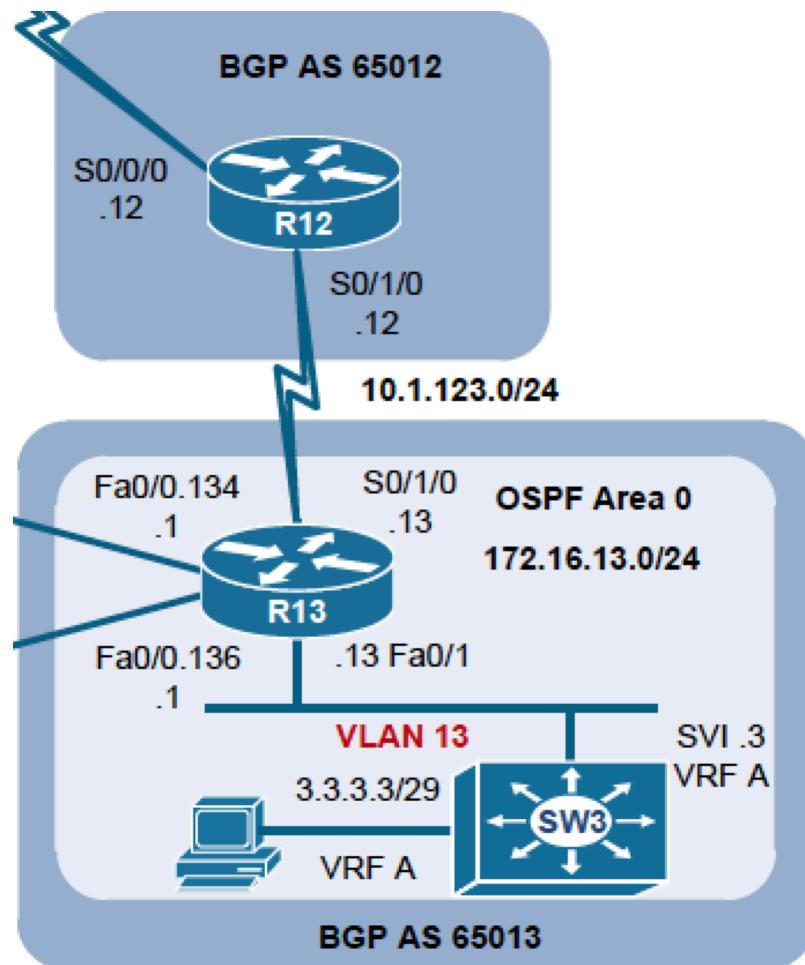
```
Rack1R17#telnet 172.17.51.3
Trying 172.17.51.3 ... Open
```

```
User Access Verification
```

```
Password:
Rack1SW3>
```

- Do not make any changes to the MPLS P routers to accomplish this task.

**Score: 2 Points**

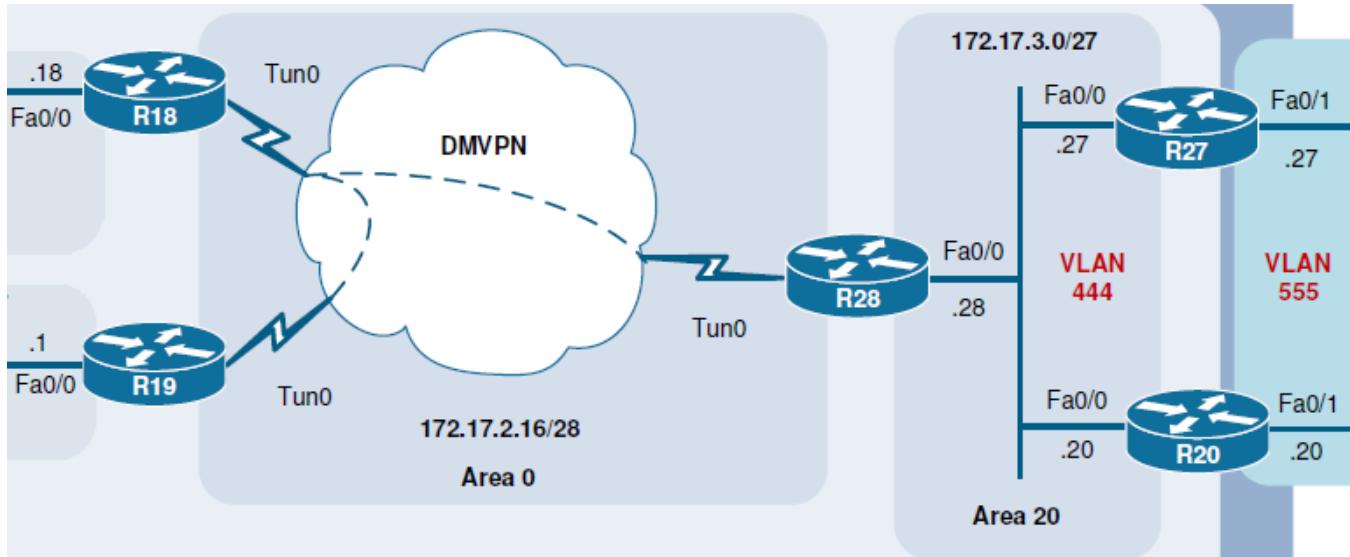
**Ticket 8**

- R12 is unable to ping SW3's Loopback 1 interface. Resolve this issue so that the ping is successful.

```
Rack1R12#ping 3.3.3.3
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 3.3.3.3, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/4/4 ms  
Rack1R12#
```

**Score: 3 Points**

**Ticket 9**

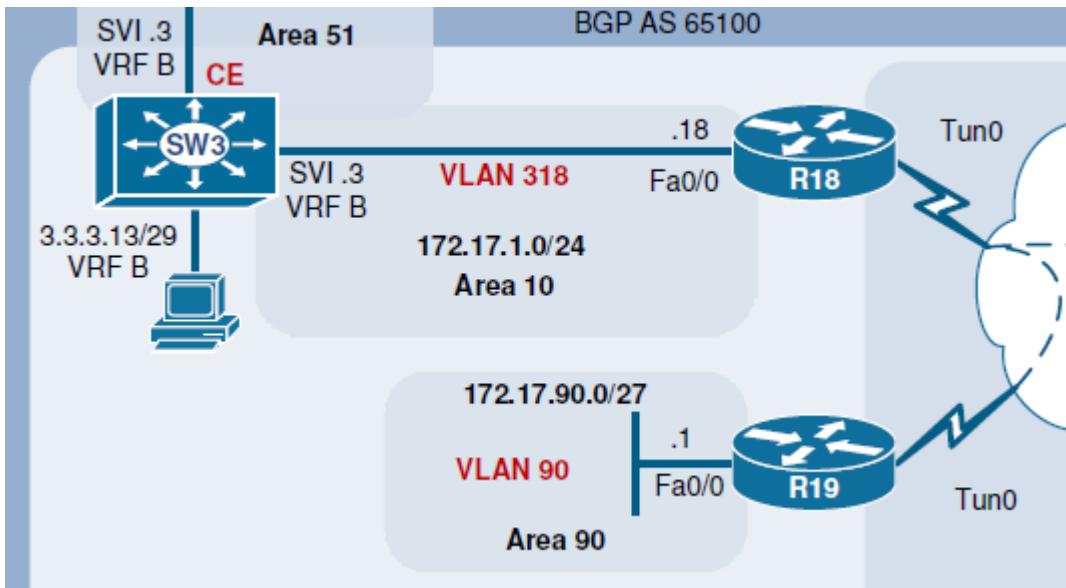
- Configure the network so that R28 matches the output below:

```
Rack1R28#ping R27
```

```
Translating "R27"...domain server (10.1.1.18) [OK]
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.1.27, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
Rack1R28#
```

- Do not make any changes to R28 for this ticket.

**Score: 2 Points**

**Ticket 10**

- Configure the network so that R19 matches the output below:

```
Rack1R19#telnet 172.17.1.3
Trying 172.17.1.3 ... Open
```

User Access Verification

Password:

Rack1SW3>who

Line	User	Host(s)	Idle	Location
0 con 0		idle	00:00:48	
* 1 vty 0		idle	00:00:00	172.17.1.18

Interface	User	Mode	Idle	Peer Address
-----------	------	------	------	--------------

Rack1SW3>

- Do not make any changes to R19 for this ticket.

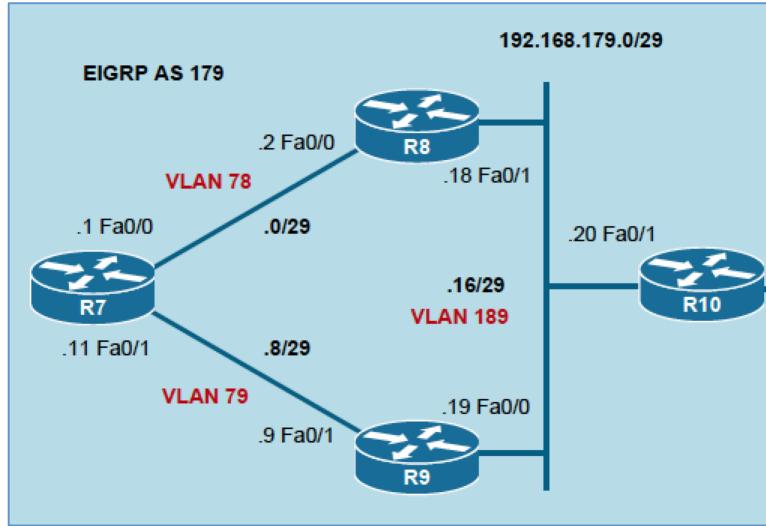
**Score: 2 Points**

# Lab 2 Trouble Tickets

**Required Diagram:** RS TS Lab 1 and 2 Topology

**Required Initial Configs:** RS TS Bootcamp Lab 2 - Initial

## Ticket 1

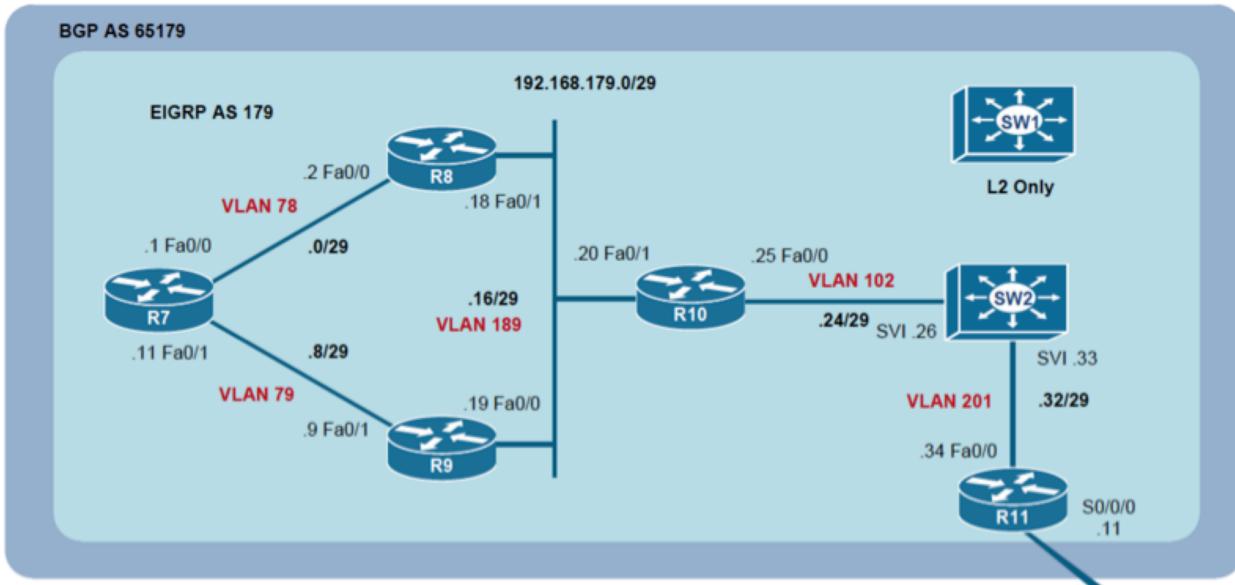


- Match the traffic share count below on R7:

```
Rack1R7#show ip route 192.168.179.32
Routing entry for 192.168.179.32/29
  Known via "eigrp 179", distance 90, metric 33536, type internal
  Redistributing via eigrp 179
  Last update from 192.168.179.2 on FastEthernet0/0, 00:00:13 ago
  Routing Descriptor Blocks:
    * 192.168.179.9, from 192.168.179.9, 00:00:13 ago, via FastEthernet0/1
      Route metric is 33536, traffic share count is 5
      Total delay is 310 microseconds, minimum bandwidth is 100000 Kbit
      Reliability 255/255, minimum MTU 1500 bytes
      Loading 1/255, Hops 3
    192.168.179.2, from 192.168.179.2, 00:00:13 ago, via FastEthernet0/0
      Route metric is 83840, traffic share count is 2
      Total delay is 2275 microseconds, minimum bandwidth is 100000 Kbit
      Reliability 255/255, minimum MTU 1500 bytes
      Loading 1/255, Hops 3
```

- Use only a single line of configuration to accomplish this task.

**Score: 2 Points**

**Ticket 2**

- R11 cannot telnet to R7. Configure the network so that the telnet below is successful.

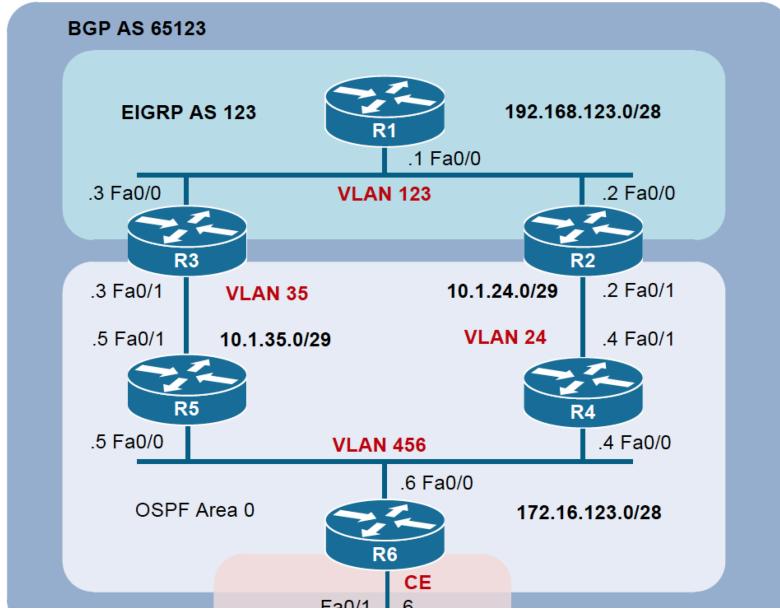
```
Rack1R11#telnet 10.1.1.7
Trying 10.1.1.7 ... Open
User Access Verification
```

```
Password:
Rack1R7>
```

- Do not alter the EIGRP routing configuration on R7 or R11. Use only a single line of configuration and do not remove any global configuration commands to resolve this ticket.

**Score: 2 Points**

### Ticket 3

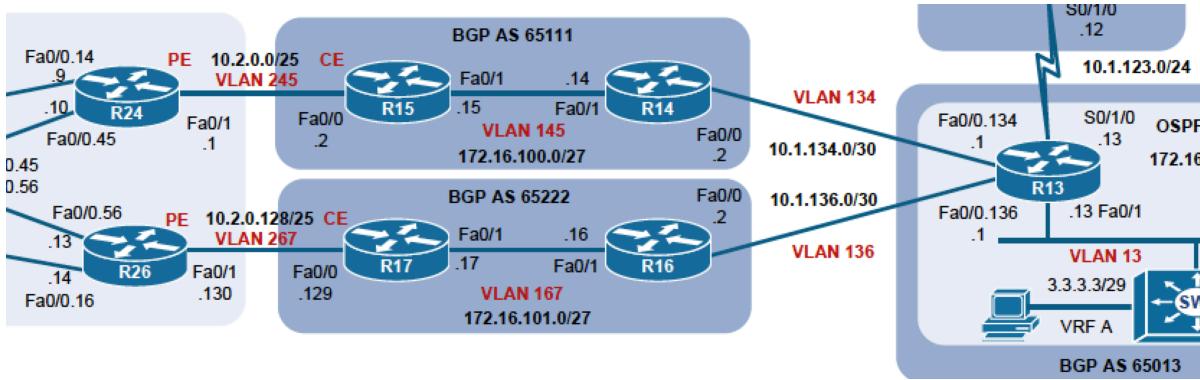


- R6 cannot ping the 227.7.7.7 group which is joined on R2's Loopback 0 interface.

```
Rack1R6#ping 227.7.7.7
Type escape sequence to abort.
Sending 1, 100-byte ICMP Echos to 227.7.7.7, timeout is 2 seconds:
Reply to request 0 from 192.168.123.2, 8 ms
Rack1R6#
```

- Do not change any of the multicast configurations on R1 or R6 to accomplish this task.

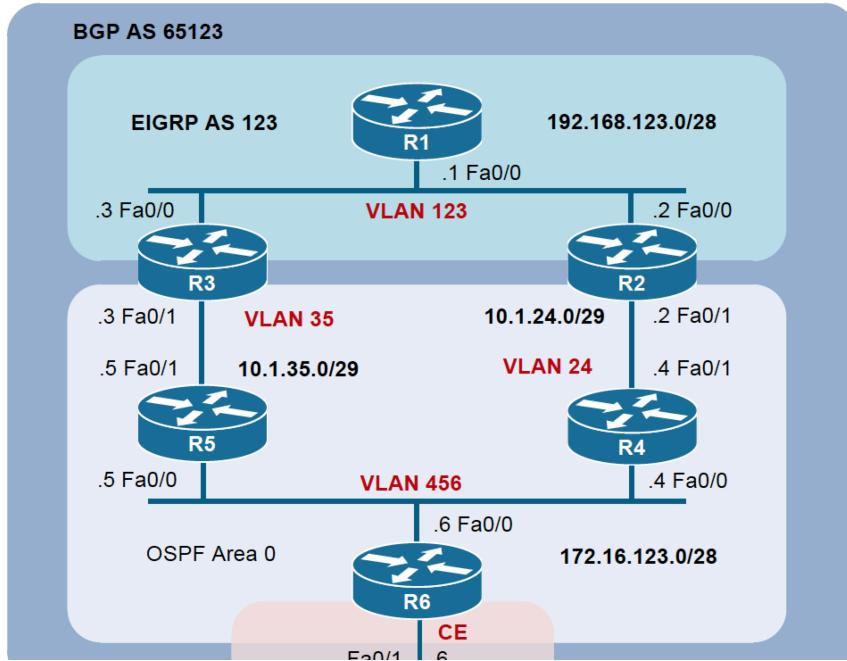
**2 Points**

**Ticket 4**

- Using only one command on R26, ensure it prefers to route across the MPLS VPN to reach R13's Loopback 0 interface. Your solution should match the output below.

```
Rack1R26#show bgp vpnv4 un vrf A 13.13.13.13/32
BGP routing table entry for 26:1:13.13.13.13/32, version 110
Paths: (2 available, best #1, table A)
Flag: 0x820
    Advertised to update-groups:
        1
        65111 65013, imported path from 24:1:13.13.13.13/32
            10.1.1.24 (metric 3) from 10.1.1.24 (10.1.1.24)
                Origin IGP, metric 0, localpref 100, valid, internal, best
                Extended Community: RT:24:1
                mpls labels in/out nolabel/62
        65222 65013
            10.2.0.129 from 10.2.0.129 (10.1.1.17)
                Origin IGP, metric 4294967295, localpref 100, valid, external
                Extended Community: RT:26:1
Rack1R26#
```

**Score: 3 Points**

**Ticket 5**

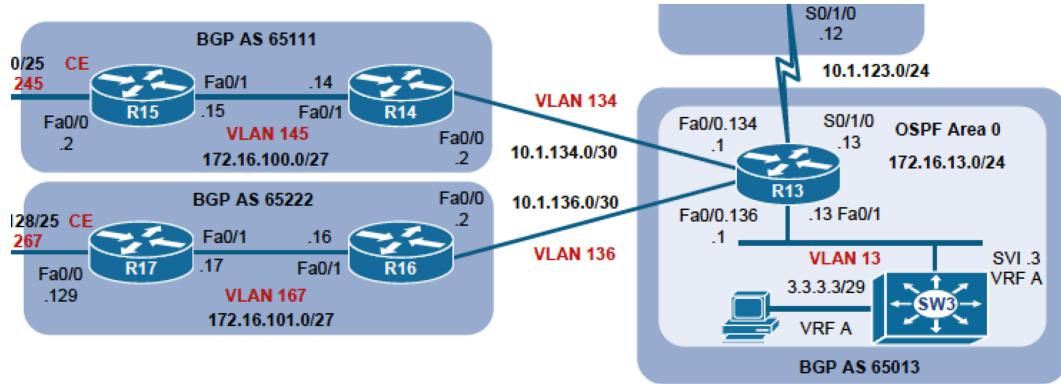
- mtrace** is failing when R4 traces to R1's Loopback 0 interface. Configure the network so that **mtrace** is successful without enabling multicast on R4's Fa0/1 interface.

```
Rack1R4#mtrace 10.1.1.1
Type escape sequence to abort.
Mtrace from 10.1.1.1 to 10.1.24.4 via RPF
From source (?) to destination (?)
Querying full reverse path...
 0 10.1.24.4
-1 10.1.24.4 None No route
Rack1R4#
```

- The solution should ensure R4 continues to traceroute to R1's Loopback 0 interface as below:

```
Rack1R4#trace 10.1.1.1
Type escape sequence to abort.
Tracing the route to 10.1.1.1
  1 10.1.24.2 0 msec 4 msec 0 msec
  2 192.168.123.1 0 msec * 0 msec
Rack1R4#
```

**Score: 2 Points**

**Ticket 6**

- R15 is unable to telnet to SW3 Loopback 1 interface. Resolve this issue to match the output below:

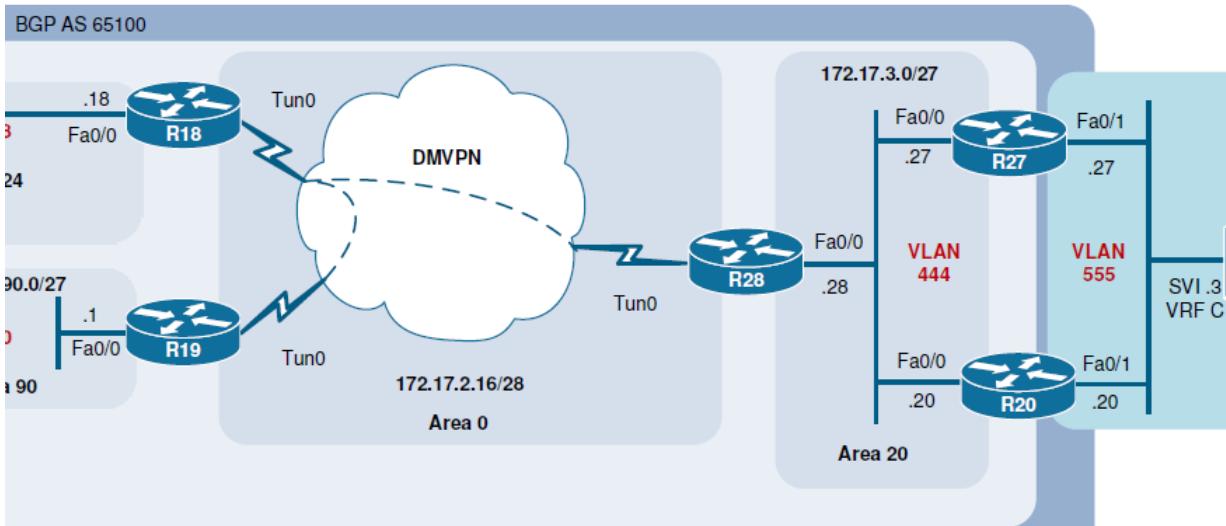
```
Rack1R15#telnet 3.3.3.3 /source-interface fa0/1
Trying 3.3.3.3 ... Open
```

```
User Access Verification
```

```
Password:
Rack1SW3>
```

**Score: 2 Points**

## Ticket 7



- R19 is unable to ping the 228.8.8.8 multicast group joined on R20's Loopback 0 interface. Configure the network to match the output below:

```
Rack1R19#ping 228.8.8.8 repeat 5
```

```
Type escape sequence to abort.
```

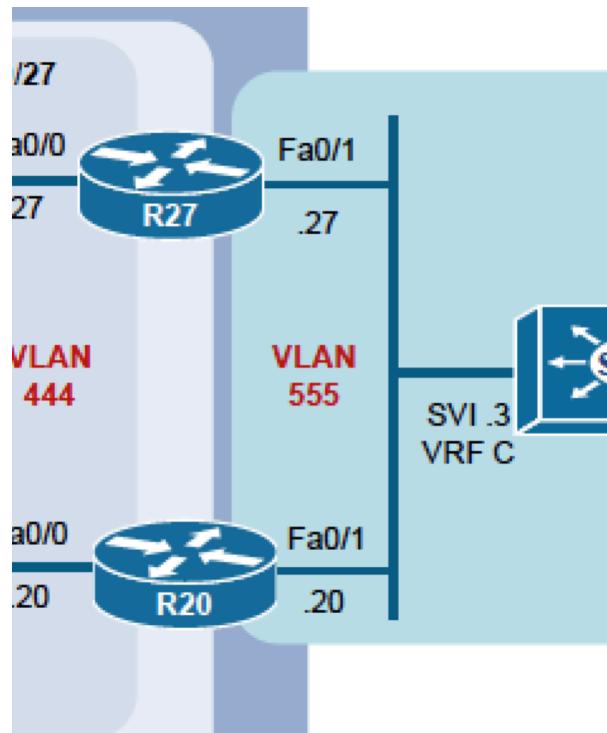
```
Sending 1, 100-byte ICMP Echos to 228.8.8.8, timeout is 2 seconds:
```

```
Reply to request 0 from 172.17.3.20, 64 ms
Reply to request 1 from 172.17.3.20, 79 ms
Reply to request 2 from 172.17.3.20, 64 ms
Reply to request 3 from 172.17.3.20, 64 ms
Reply to request 4 from 172.17.3.20, 92 ms
```

```
Rack1R19#
```

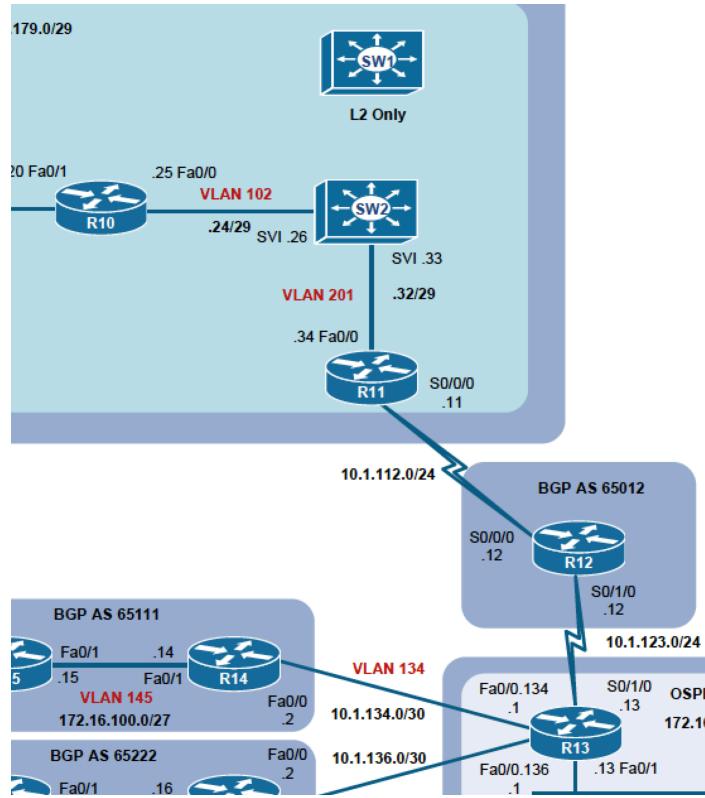
- Use only one command on R18 when implementing a solution.

**Score: 3 Points**

**Ticket 8**

- The EIGRP neighbors in VLAN 555 are bouncing. Resolve this issue and ensure the EIGRP neighbor relationships remain stable.

**Score: 2 Points**

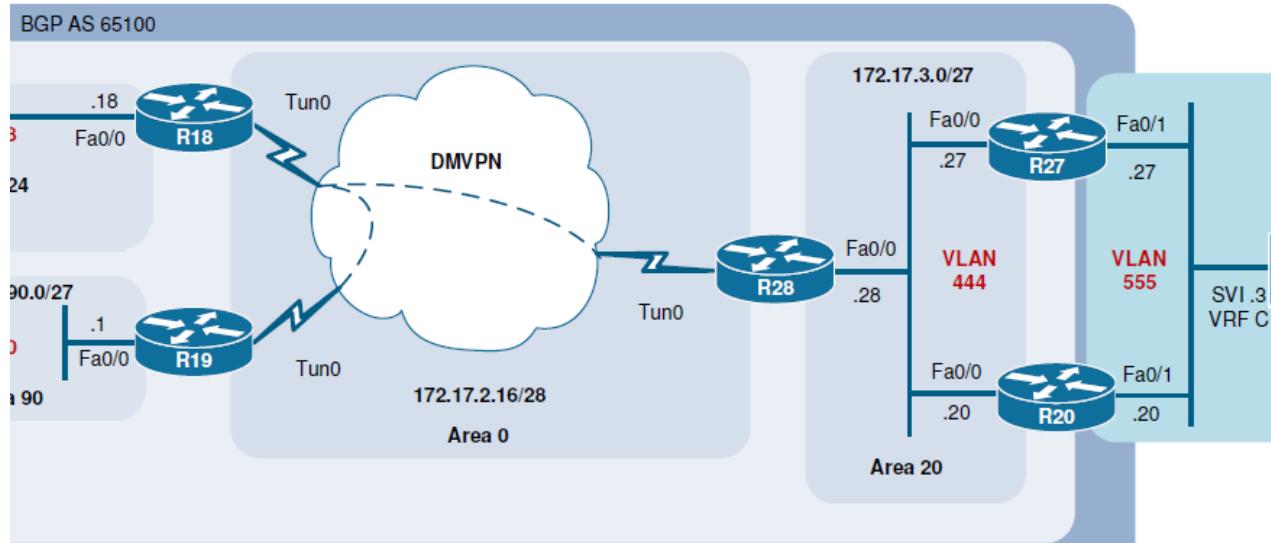
**Ticket 9**

- R10 is unable to telnet to R13's Loopback 0 interface. Configure the network to match the output below:

```
Rack1R10# telnet 10.1.1.13 /source-interface lo 0
Trying 10.1.1.13 ... Open
```

```
User Access Verification
Password:
Rack1R13>
```

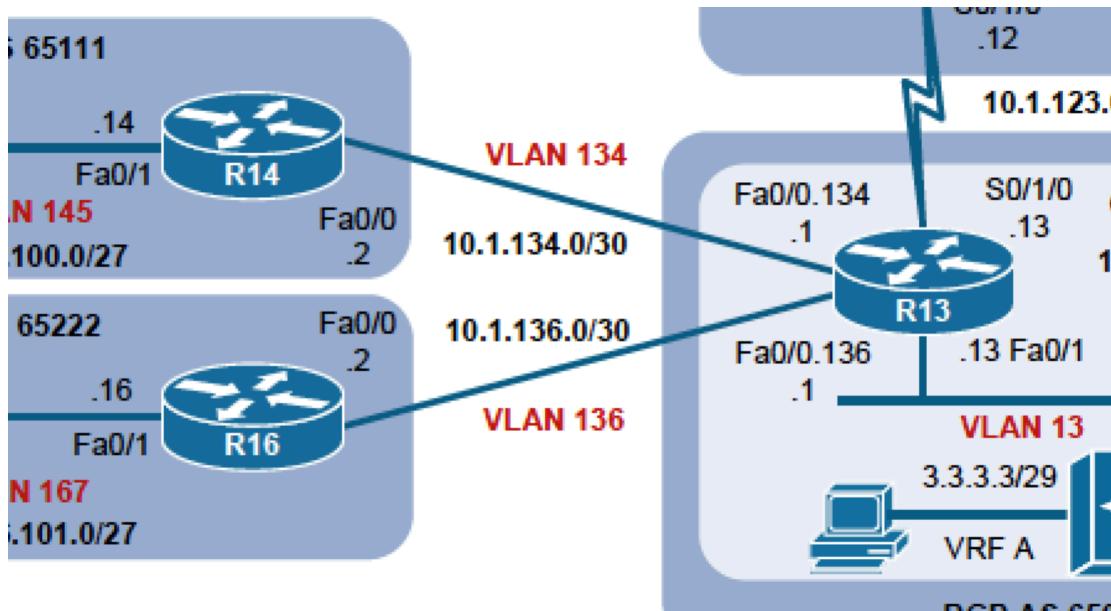
**Score: 2 Points**

**Ticket 10**

- Configure R18 to generate the following syslog message when R20's Loopback 0 interface becomes unreachable from R18.

R20's Loopback 0 is down

**Score: 3 Points**

**Ticket 11**

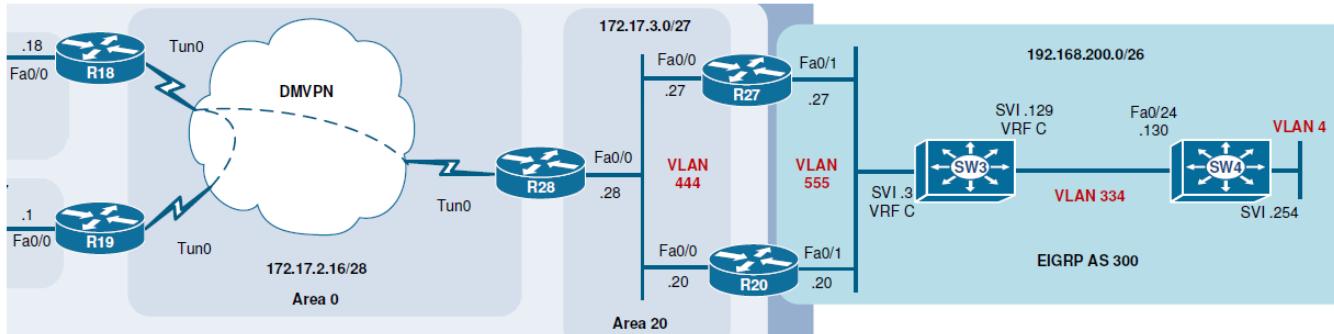
- Configure R13 to always select R14 to reach the 172.16.6.0/24 subnet when the BGP path attributes are the same. The solution should match the output below.

```
Rack1R13#show ip bgp 172.16.6.0
BGP routing table entry for 172.16.6.0/24, version 132
Paths: (2 available, best #1, table Default-IP-Routing-Table)
Flag: 0x820
    Advertised to update-groups:
        1
        65111 10
            10.1.134.2 from 10.1.134.2 (10.1.1.14)
                Origin incomplete, localpref 100, valid, external, best
        65222 10
            10.1.136.2 from 10.1.136.2 (10.1.1.16)
                Origin incomplete, localpref 100, valid, external
Rack1R13#
```

Do not alter weight, local preference, AS PATH, origin code and/or MED. Use only one command on R13 to resolve this ticket.

**Score: 2 Points**

## Ticket 12



- SW4 is unable to ping R18's Loopback 0 interface. Resolve this issue without using any configuration commands on SW4.

```
Rack1SW4#ping 10.1.1.18
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.1.1.18, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 12/14/16 ms  
Rack1SW4#
```

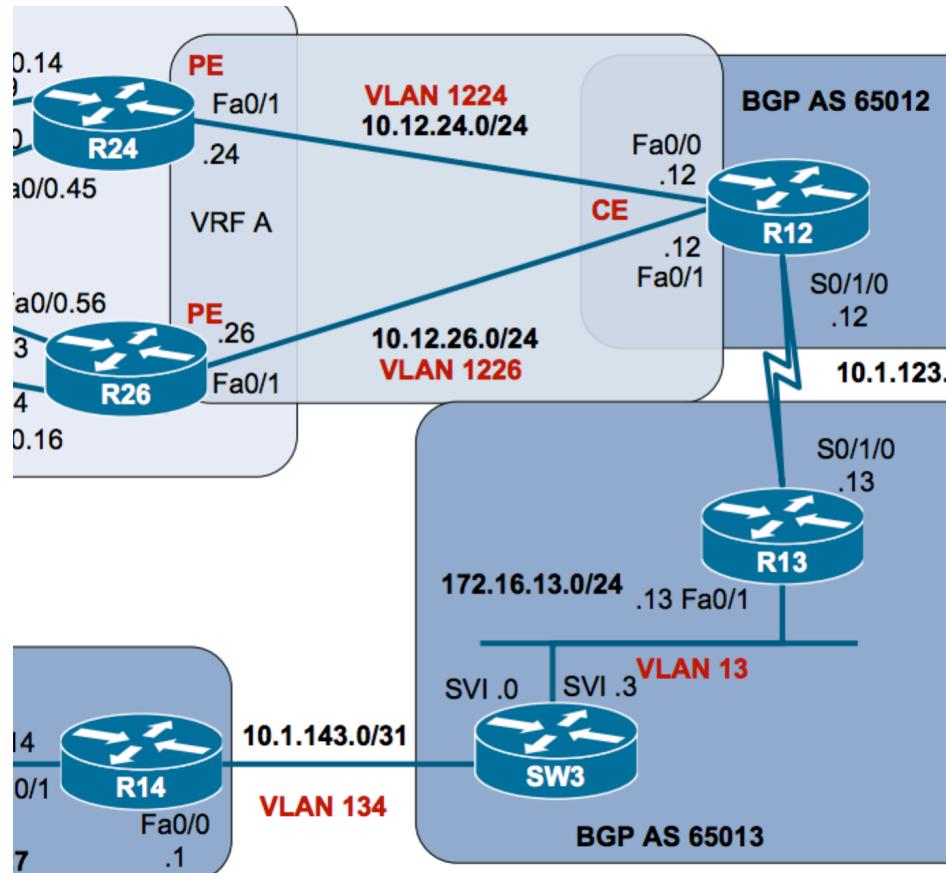
## **Score: 2 Points**

# Lab 3 Trouble Tickets

**Required Diagram:** RS TS Lab 3 and 4 Topology

**Required Initial Configs:** RS TS Bootcamp Lab 3 - Initial

## Ticket 1

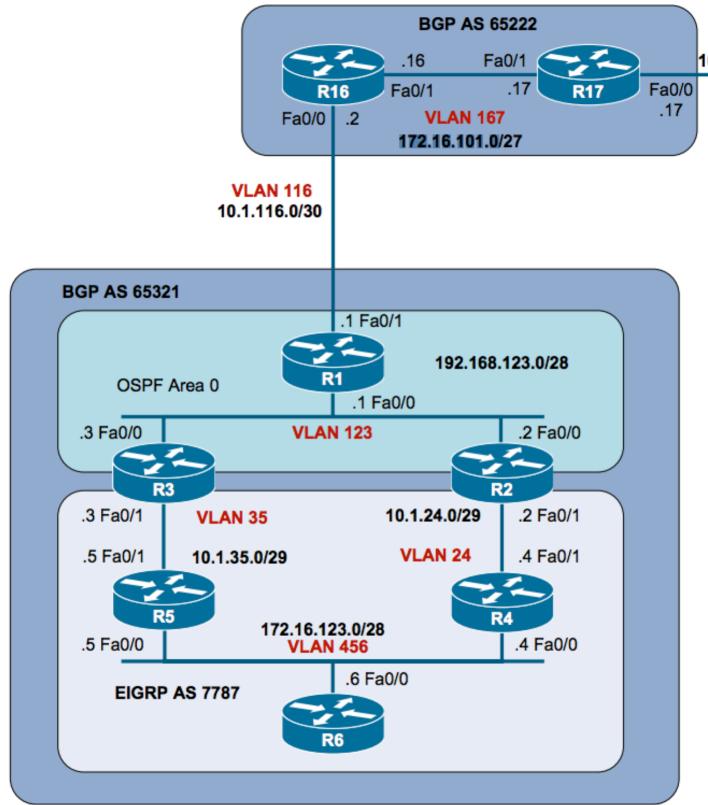


- Resolve the issue so the ping to R24's Loopback24 below is successful.

```
R14#ping 24.24.24.24
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 24.24.24.24, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/4 ms  
R14#
```

**Score: 2 Points**

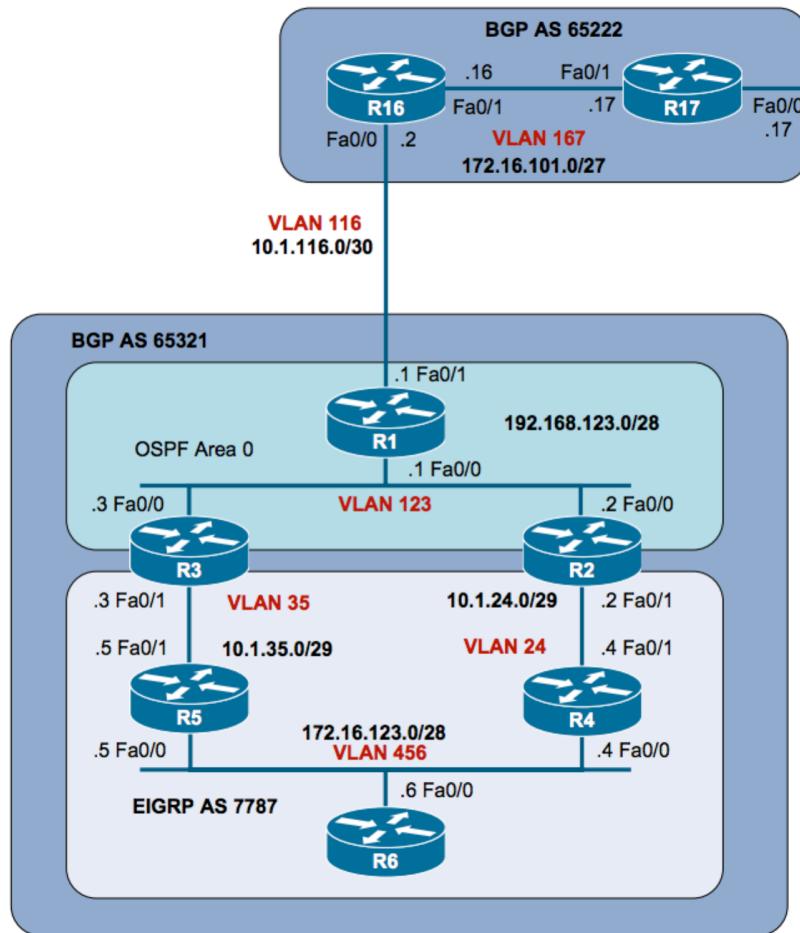
**Ticket 2**

- Users on VLAN 456 are unable to reach R17's Fa0/0. Modify the network to allow the following test to succeed:

```
R6#telnet 10.17.27.17
Trying 10.17.27.17 ... Open
```

R17#

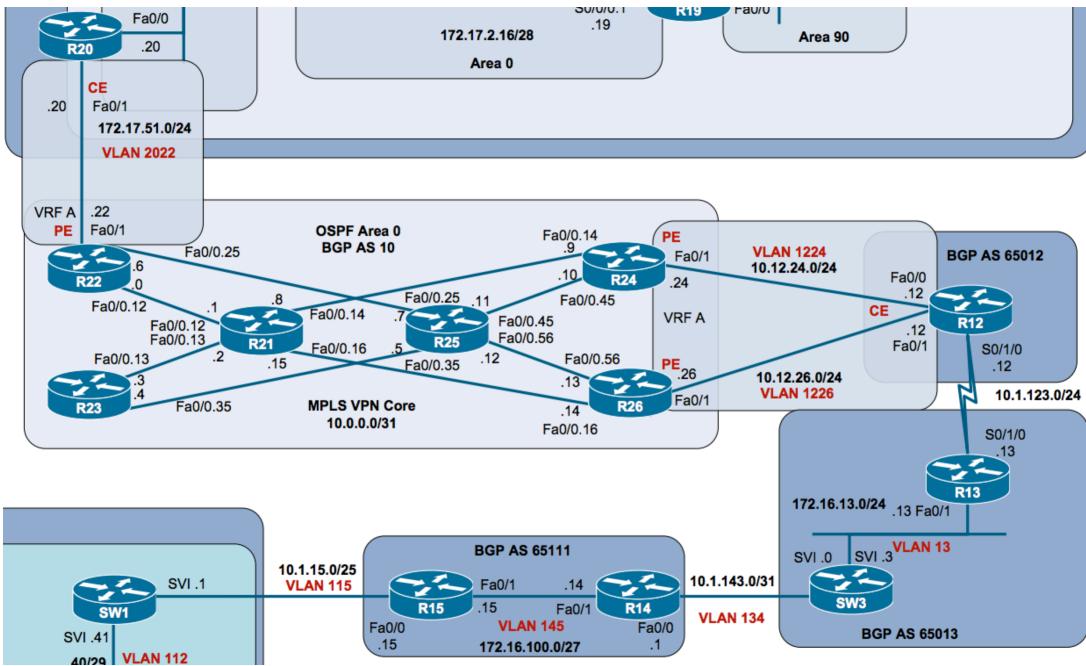
**Score: 2 Points**

**Ticket 3**

- R6 is unable to transfer files to and from its TFTP server. Once this problem is resolved you should be able to match the following output:

```
R6#copy tftp://172.16.101.17/c1841-adventerprisek9-mz.124-15.T17.bin null:
Accessing tftp://172.16.101.17/c1841-adventerprisek9-mz.124-15.T17.bin...
Loading c1841-adventerprisek9-mz.124-15.T17.bin from 172.16.101.17 (via
FastEthernet0/0): !!!!!!!
<snip>
```

**Score: 3 Points**

**Ticket 4**

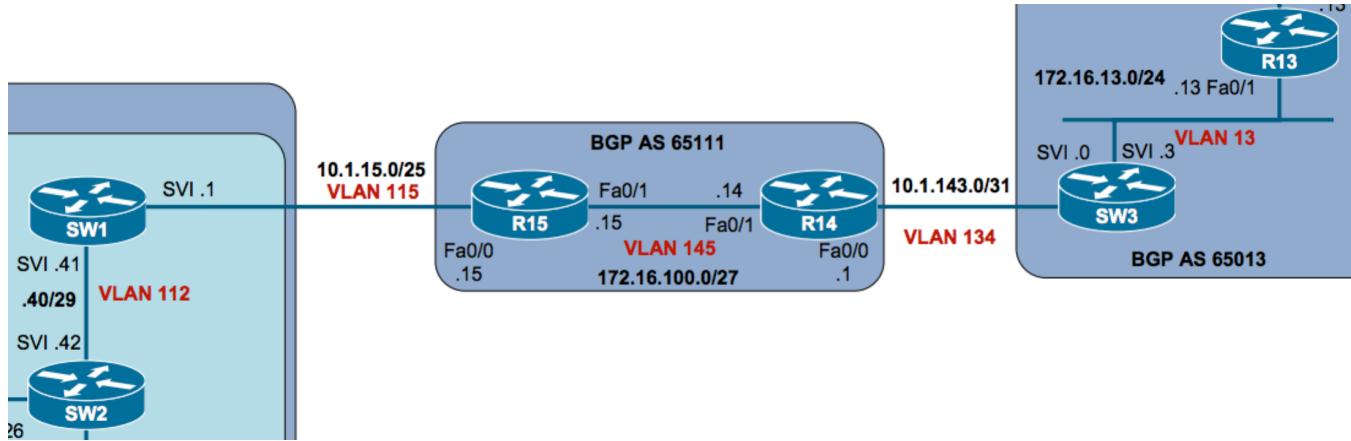
- Users in AS 65100 are unable to reach certain destinations across the MPLS L3VPN connection of AS 10. Modify the network to match the following output:

```
R20#traceroute 172.16.13.3 source Fa0/0
```

```
Type escape sequence to abort.  
Tracing the route to 172.16.13.3
```

```
1 172.17.51.22 0 msec 4 msec 0 msec  
2 10.0.0.1 [MPLS: Labels 16/34 Exp 0] 4 msec 0 msec 4 msec  
3 10.12.24.24 [MPLS: Label 34 Exp 0] 0 msec 4 msec 0 msec  
4 10.12.24.12 0 msec 4 msec 0 msec  
5 10.1.123.13 16 msec 16 msec 12 msec  
6 172.16.13.3 [AS 65013] 12 msec * 16 msec
```

**Score: 2 Points**

**Ticket 5**

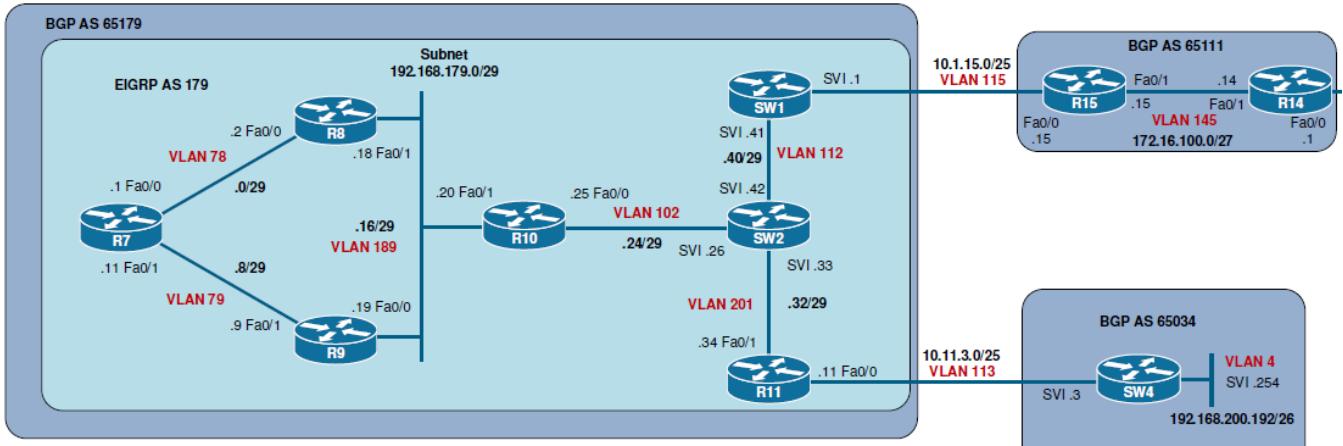
- Users in AS 65013 are unable to reach certain destinations in AS 65179. Resolve the issue in the network to match the following output:

```
R13#ping 192.168.179.42
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 192.168.179.42, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

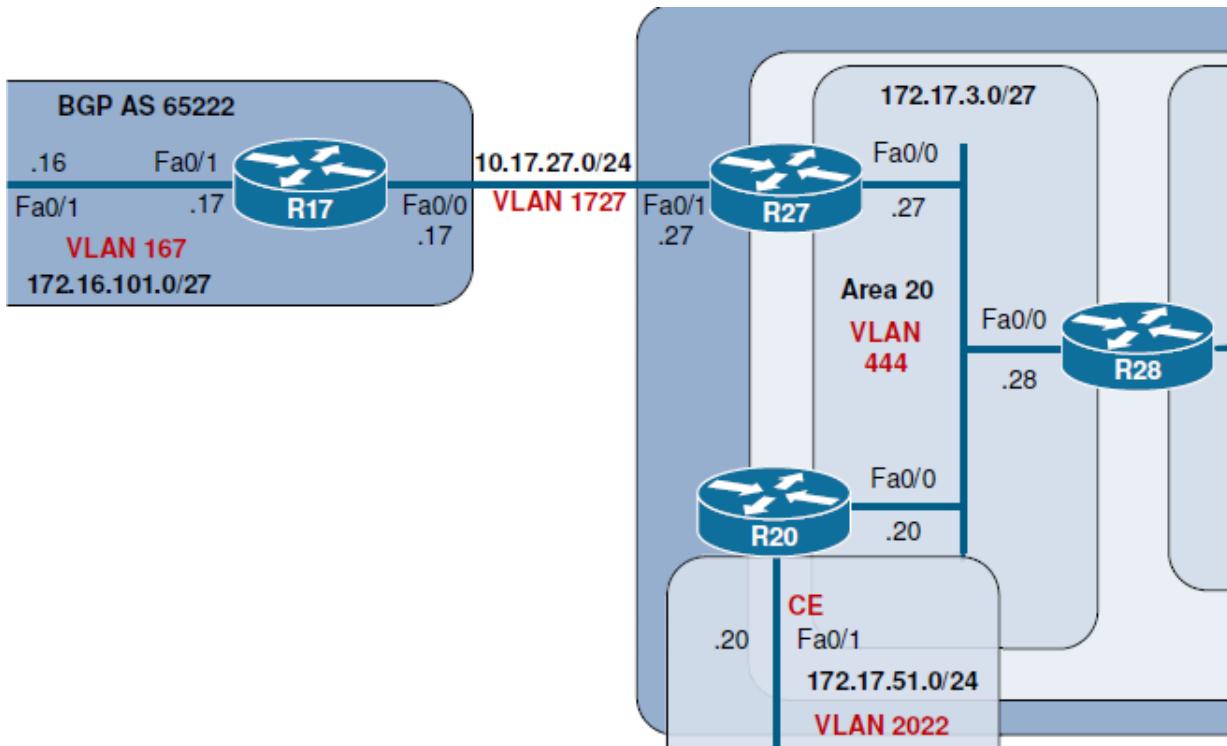
**Score: 2 Points**

## Ticket 6



- Users in AS 65034 are unable to reach certain destinations in AS 65179. Using the minimum number of changes, resolve the issue so that all routers in AS 65179 can ping the VLAN 4 address.

**Score: 2 Points**

**Ticket 7**

- Modify the network to match the following output:

```
R17#traceroute 172.17.3.20 source Dialer1
```

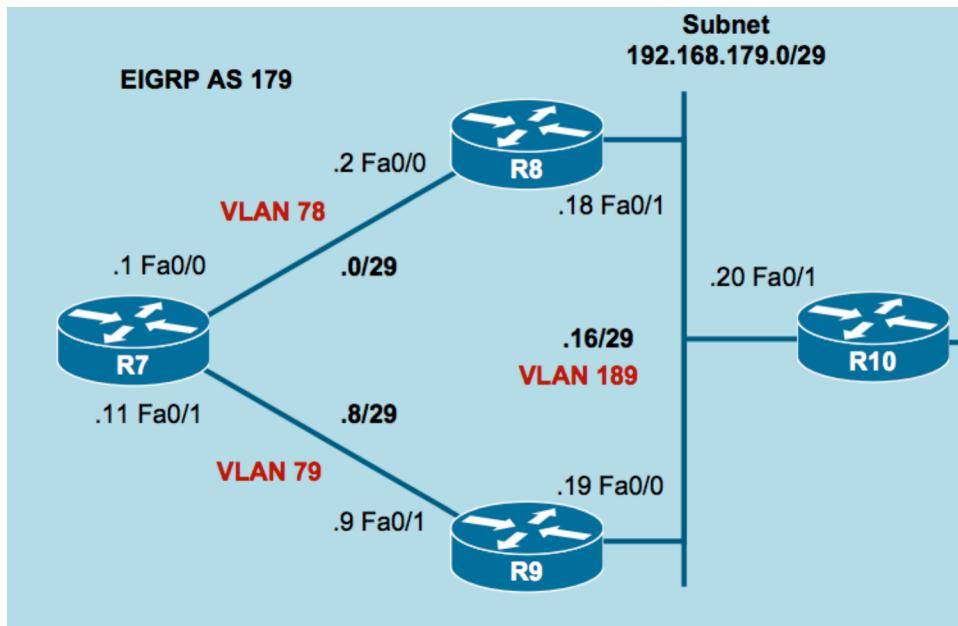
Type escape sequence to abort.  
Tracing the route to 172.17.3.20

```
1 10.17.27.27 4 msec 0 msec 0 msec
2 172.17.3.28 [AS 65100] 4 msec 0 msec 0 msec
3 172.17.3.20 [AS 65100] 0 msec * 0 msec
```

- Do not make any changes to SW4 for this task.

**Score: 2 Points**

## Ticket 8



- Modify the network to ensure the number successes is greater than 1 and the number of failures is 0:

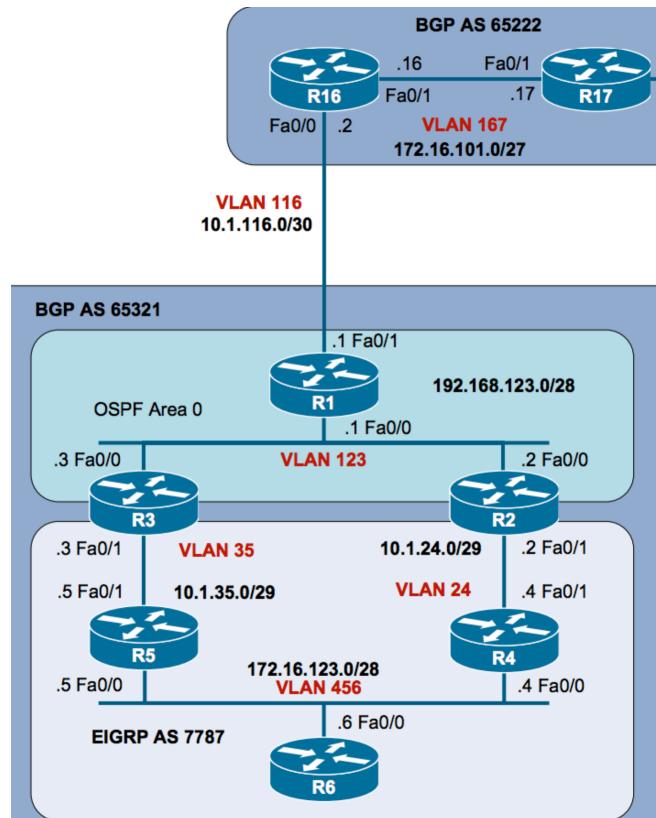
```
R7#show ip sla statistics
```

```
Round Trip Time (RTT) for           Index 1
          Latest RTT: 1 milliseconds
Latest operation start time: 20:36:07 UTC Tue Jun 18 2013
Latest operation return code: OK
Number of successes: 3
Number of failures: 0
Operation time to live: 3589 sec
```

R7 #

## **Score: 2 Points**

## Ticket 9



- Modify the network to match the following output:

```
R6#ping 172.16.101.17 repeat 1000 timeout 1 size 64
```

Type escape sequence to abort.

Sending 1000, 64-byte ICMP Echos to 172.16.101.17, timeout is 1 seconds:

.....

-----

For more information about the study, please contact Dr. Michael J. Hwang at (310) 206-6500 or via email at [mhwang@ucla.edu](mailto:mhwang@ucla.edu).

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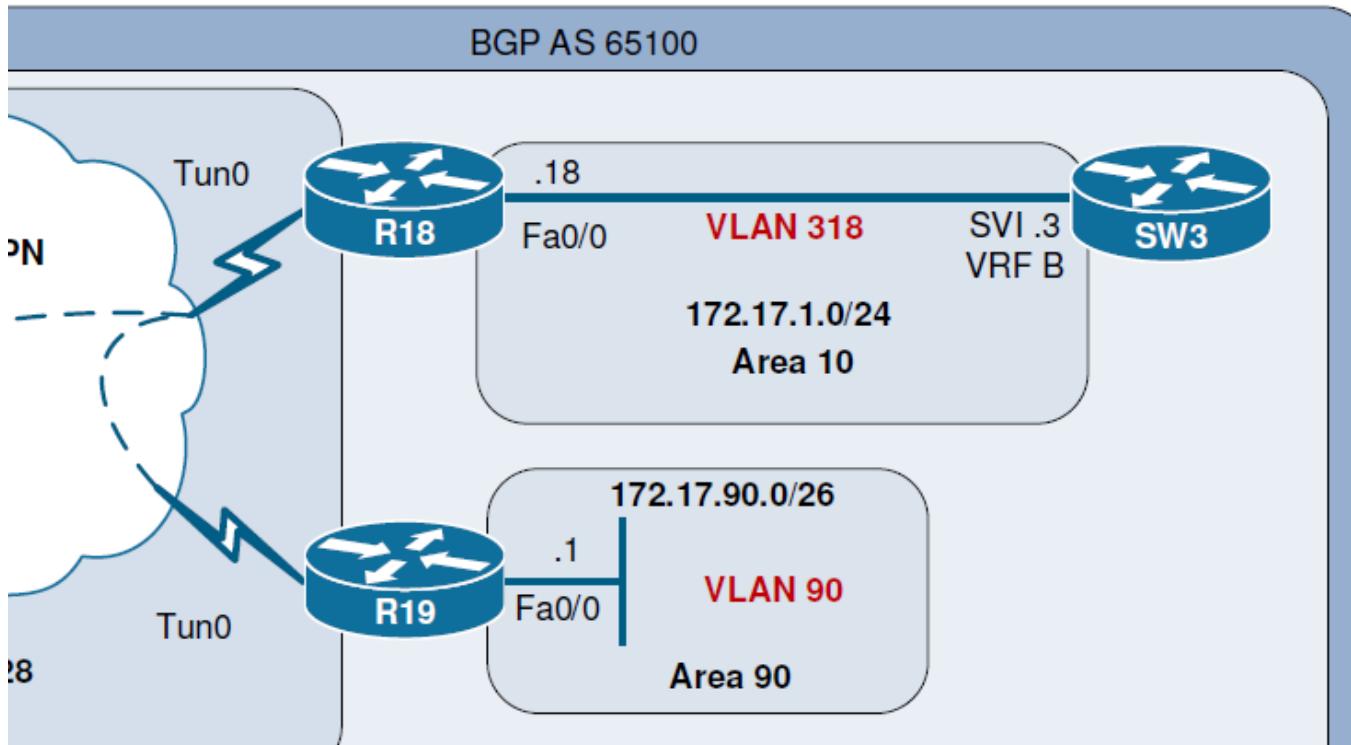
For more information about the study, please contact Dr. John Smith at (555) 123-4567 or via email at [john.smith@researchinstitute.org](mailto:john.smith@researchinstitute.org).

For more information about the study, please contact Dr. John Smith at (555) 123-4567 or via email at [john.smith@researchinstitute.org](mailto:john.smith@researchinstitute.org).

Success rate is 100 percent (1000/1000). round-trip min/avg/max = 1/2/2

Success rate is 100 percent (1000/1000), round trip min/avg/max = 1/2/4 ms

## **Score: 2 Points**

**Ticket 10**

- Resolve the issue with R19 pinging SW3 to match the output below.

```
R19#ping 172.17.1.3 size 1000
Type escape sequence to abort.
Sending 5, 1000-byte ICMP Echos to 172.17.1.3, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 504/507/508 ms
R19#
```

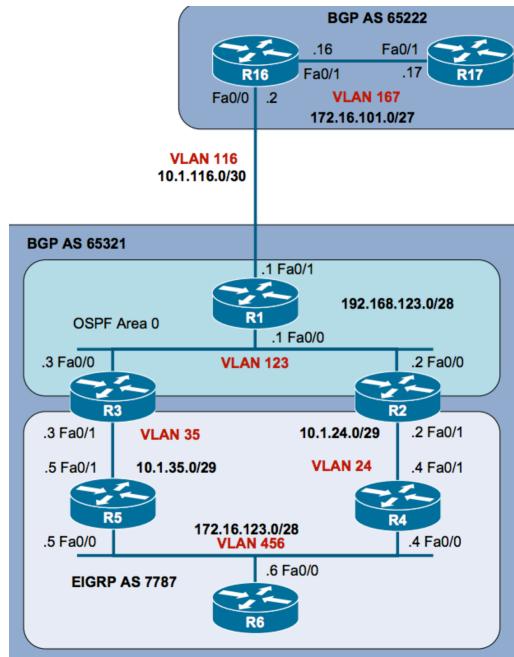
**Score: 2 Points**

# Lab 4 Trouble Tickets

**Required Diagram:** RS TS Lab 3 and 4 Topology

**Required Initial Configs:** RS TS Bootcamp Lab 4 - Initial

## Ticket 1



- Configure the network to match the following output:

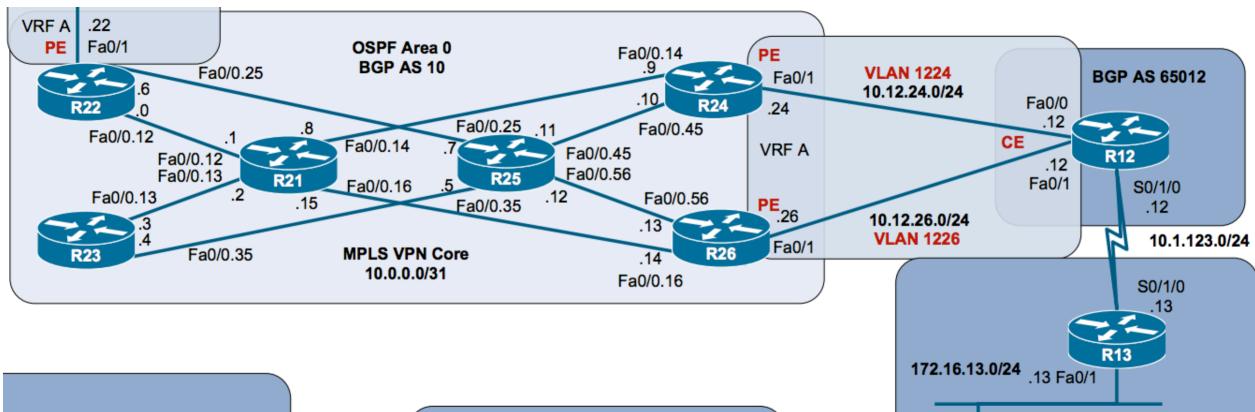
```
R17#ping 226.6.6.6 repeat 5
```

Type escape sequence to abort.

Sending 10, 100-byte ICMP Echos to 226.6.6.6, timeout is 2 seconds:

```
Reply to request 0 from 172.16.123.6, 8 ms
Reply to request 1 from 172.16.123.6, 1 ms
Reply to request 2 from 172.16.123.6, 1 ms
Reply to request 3 from 172.16.123.6, 1 ms
Reply to request 4 from 172.16.123.6, 1 ms
```

**Score: 3 Points**

**Ticket 2**

- Configure the network to match the following output:

```
R20#traceroute 172.16.13.13
```

Type escape sequence to abort.  
Tracing the route to 172.16.13.13

```
1 172.17.51.22 0 msec 0 msec 0 msec
2 10.12.24.24 [MPLS: Label 16 Exp 0] 0 msec 4 msec 0 msec
3 10.12.24.12 4 msec 0 msec 4 msec
4 10.1.123.13 12 msec * 12 msec
R20#
```

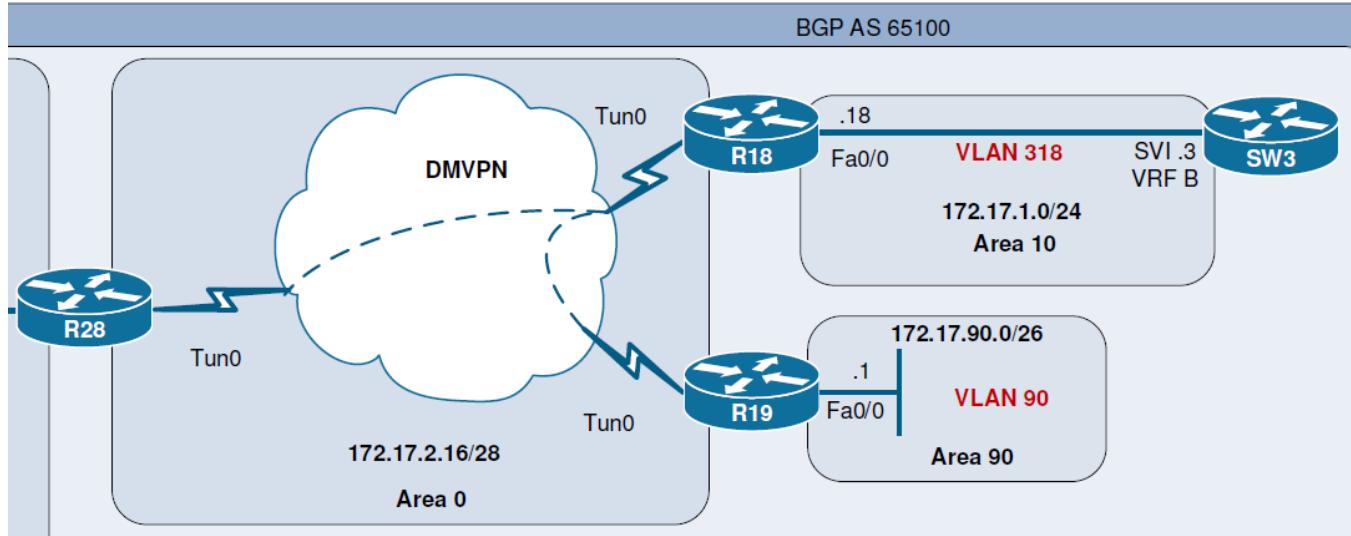
```
R22#traceroute 24.24.24.24
```

Type escape sequence to abort.  
Tracing the route to 24.24.24.24

```
1 10.0.0.1 [MPLS: Label 16 Exp 0] 0 msec
10.0.0.7 [MPLS: Label 16 Exp 0] 4 msec
10.0.0.1 [MPLS: Label 16 Exp 0] 0 msec
2 10.0.0.10 0 msec
10.0.0.9 0 msec *
R22#
```

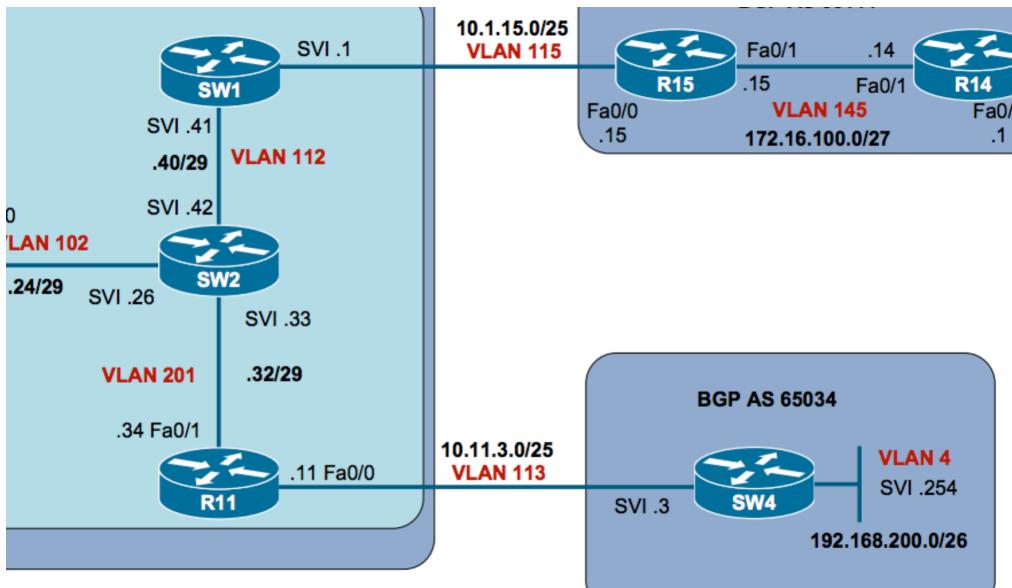
- Do not make any changes to R20 to accomplish this.

**Score: 2 Points**

**Ticket 3**

- Users on VLAN 90 are having connectivity issues with other destinations inside of AS 65100. Modify the network so that users in this segment have reachability to R20 FastEthernet0/0.

**Score: 2 Points**

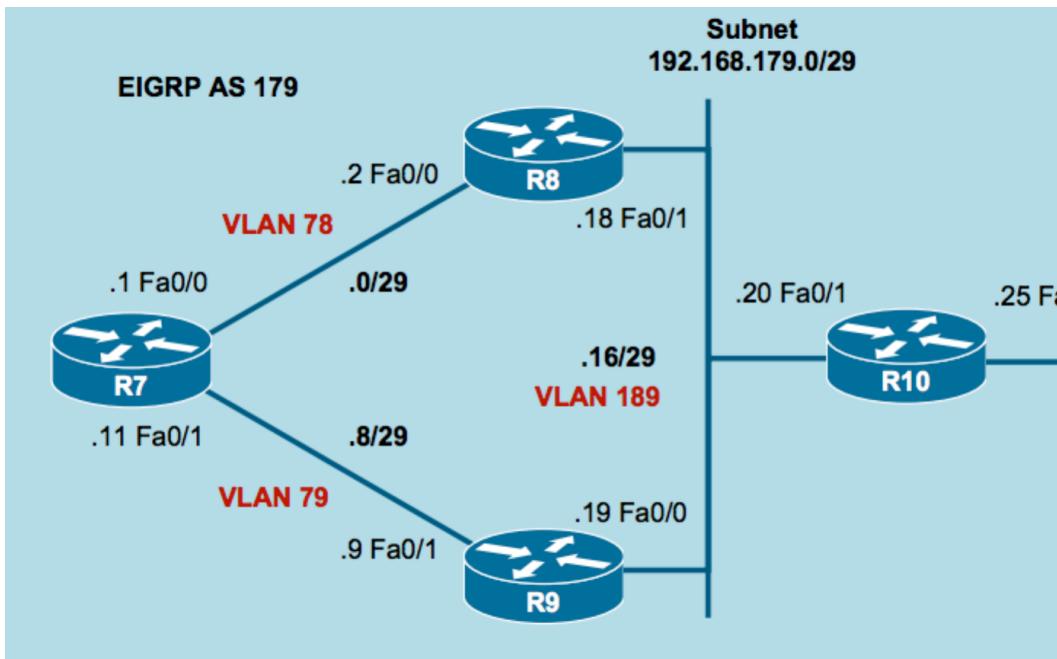
**Ticket 4**

- Configure the network to match the following output:

```
SW4#telnet 192.168.179.41 /source-interface Vlan4
Trying 192.168.179.41 ... Open
```

```
SW1#
```

**Score: 2 Points**

**Ticket 5**

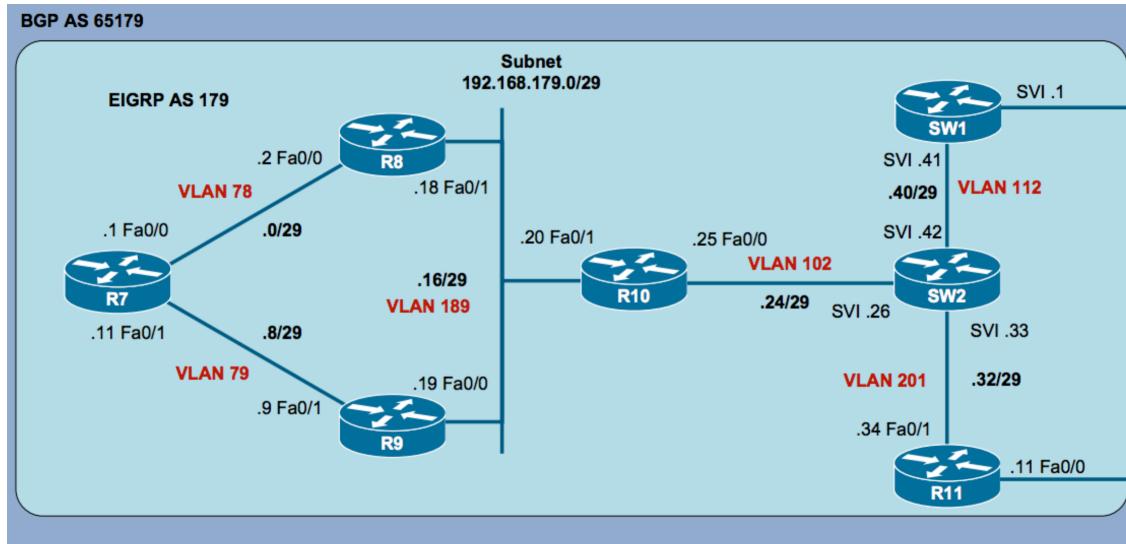
- Configure the network to match the following output:

```
R7#show ip route 192.168.179.24
Routing entry for 192.168.179.24/29
  Known via "eigrp 179", distance 90, metric 33280, type internal
  Redistributing via eigrp 179
  Last update from 192.168.179.9 on FastEthernet0/1, 00:00:05 ago
  Routing Descriptor Blocks:
    192.168.179.9, from 192.168.179.9, 00:00:05 ago, via FastEthernet0/1
      Route metric is 66560, traffic share count is 1
      Total delay is 1600 microseconds, minimum bandwidth is 100000 Kbit
      Reliability 255/255, minimum MTU 1500 bytes
      Loading 1/255, Hops 2
    * 192.168.179.2, from 192.168.179.2, 00:00:05 ago, via FastEthernet0/0
      Route metric is 33280, traffic share count is 2
      Total delay is 300 microseconds, minimum bandwidth is 100000 Kbit
      Reliability 255/255, minimum MTU 1500 bytes
      Loading 1/255, Hops 2
```

- Do not use an offset-list for this task.

**Score: 2 Points**

## Ticket 6



- Configure AS 65179 to match the following output:

```
R8#show ntp status | in sync
Clock is synchronized, stratum 8, reference is 192.168.179.1
```

```
R9#show ntp status | in sync
Clock is synchronized, stratum 8, reference is 192.168.179.1
```

```
R10#show ntp status | in sync
Clock is synchronized, stratum 8, reference is 192.168.179.1
```

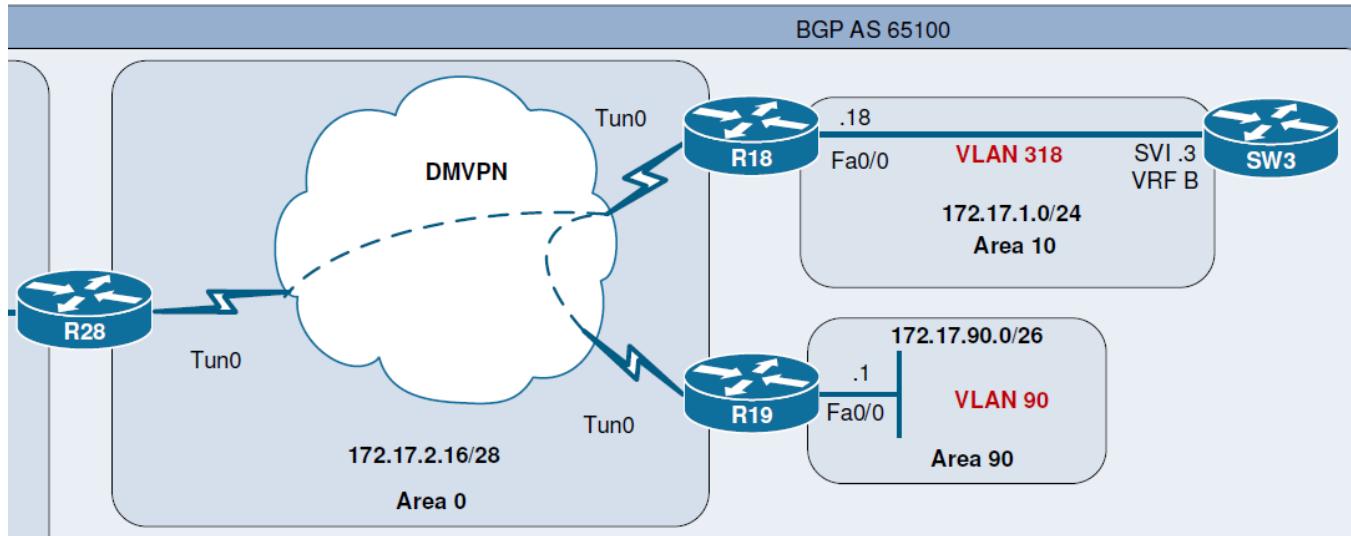
```
R11#show ntp status | in sync
Clock is synchronized, stratum 8, reference is 192.168.179.1
```

```
SW1#show ntp status | in sync
Clock is synchronized, stratum 8, reference is 192.168.179.1
```

```
SW2#show ntp status | in sync
Clock is synchronized, stratum 8, reference is 192.168.179.1
```

- Do not modify any NTP related configuration on the clients.

**Score: 2 Points**

**Ticket 7**

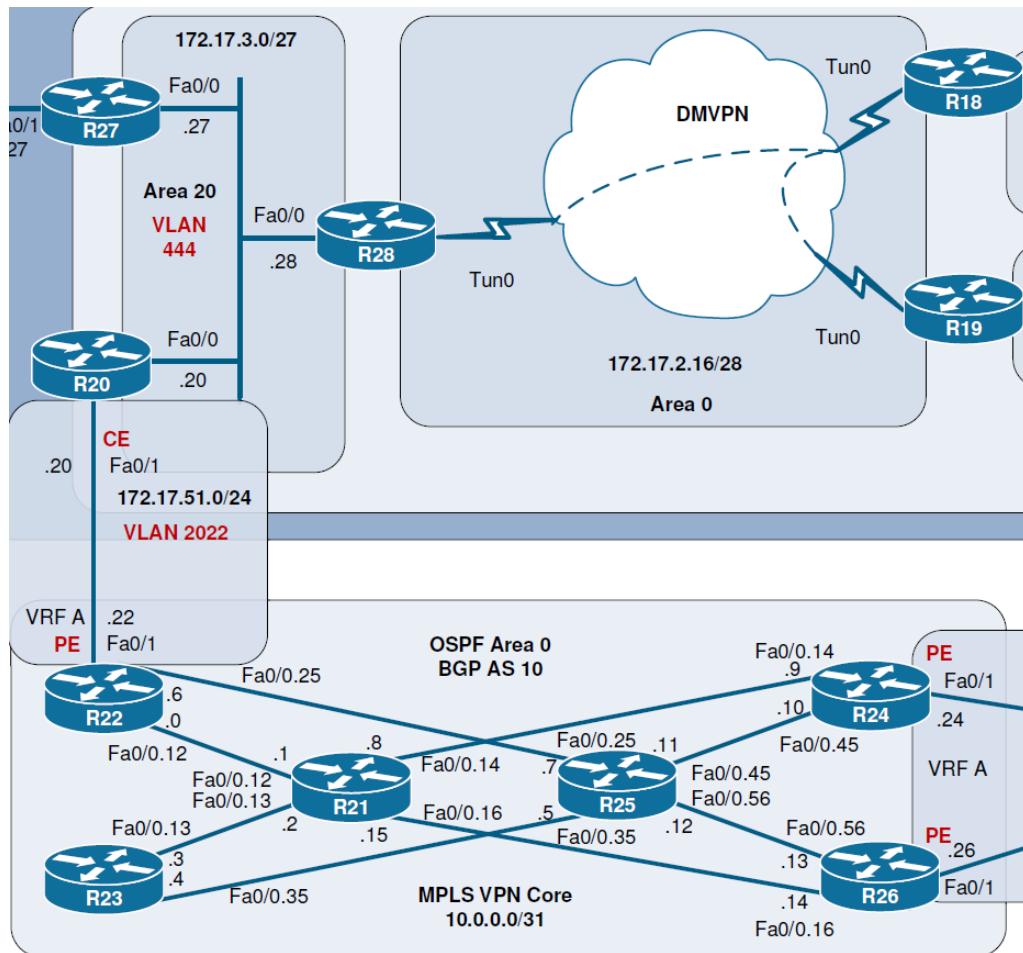
- Configure the network to match the following output:

```
R28#ping 172.17.1.3
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 172.17.1.3, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 28/28/32 ms  
R28#
```

- Do not modify SW3's configuration for this task.

**Score: 2 Points**

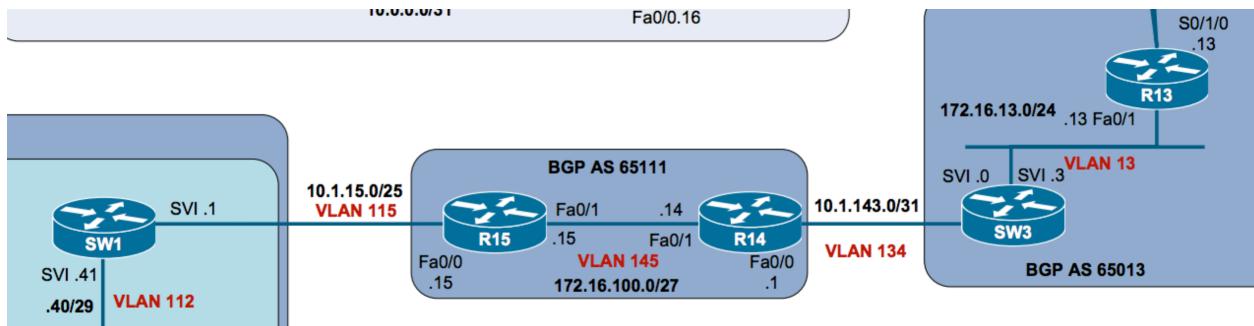
**Ticket 8**

- Configure the network to match the following output:

```
R28#ping 10.12.24.24
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.12.24.24, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 28/31/32 ms  
R28#
```

**Score: 2 Points**

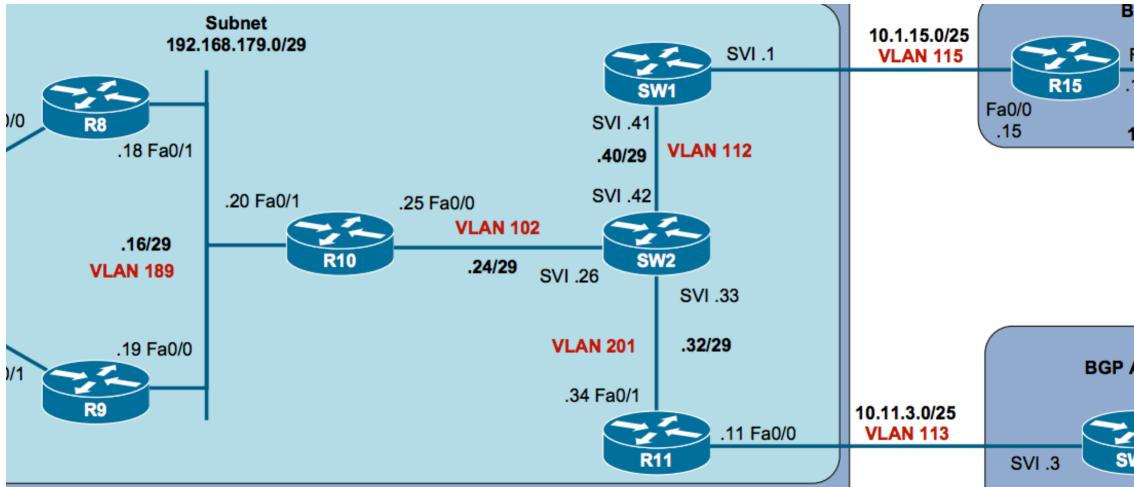
**Ticket 9**

- Configure the network to match the following output:

```
R13#ping 192.168.179.41
```

```
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.179.41, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
R13#
```

**Score: 3 Points**

**Ticket 10**

- Configure the network to match the following output:

```
R15#telnet 192.168.179.19
Trying 192.168.179.19 ... Open
```

```
R9#
```

**Score: 2 Points**