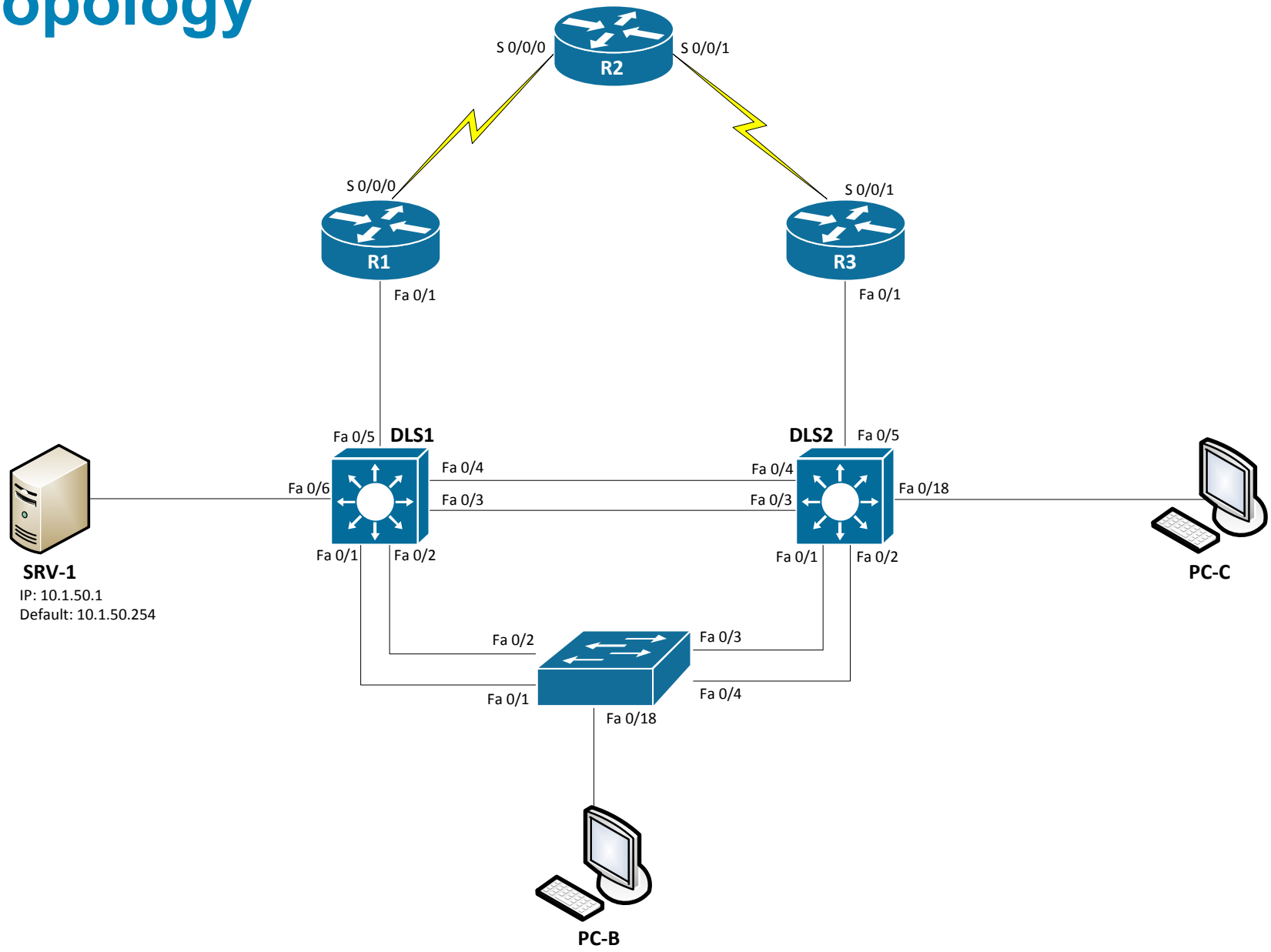
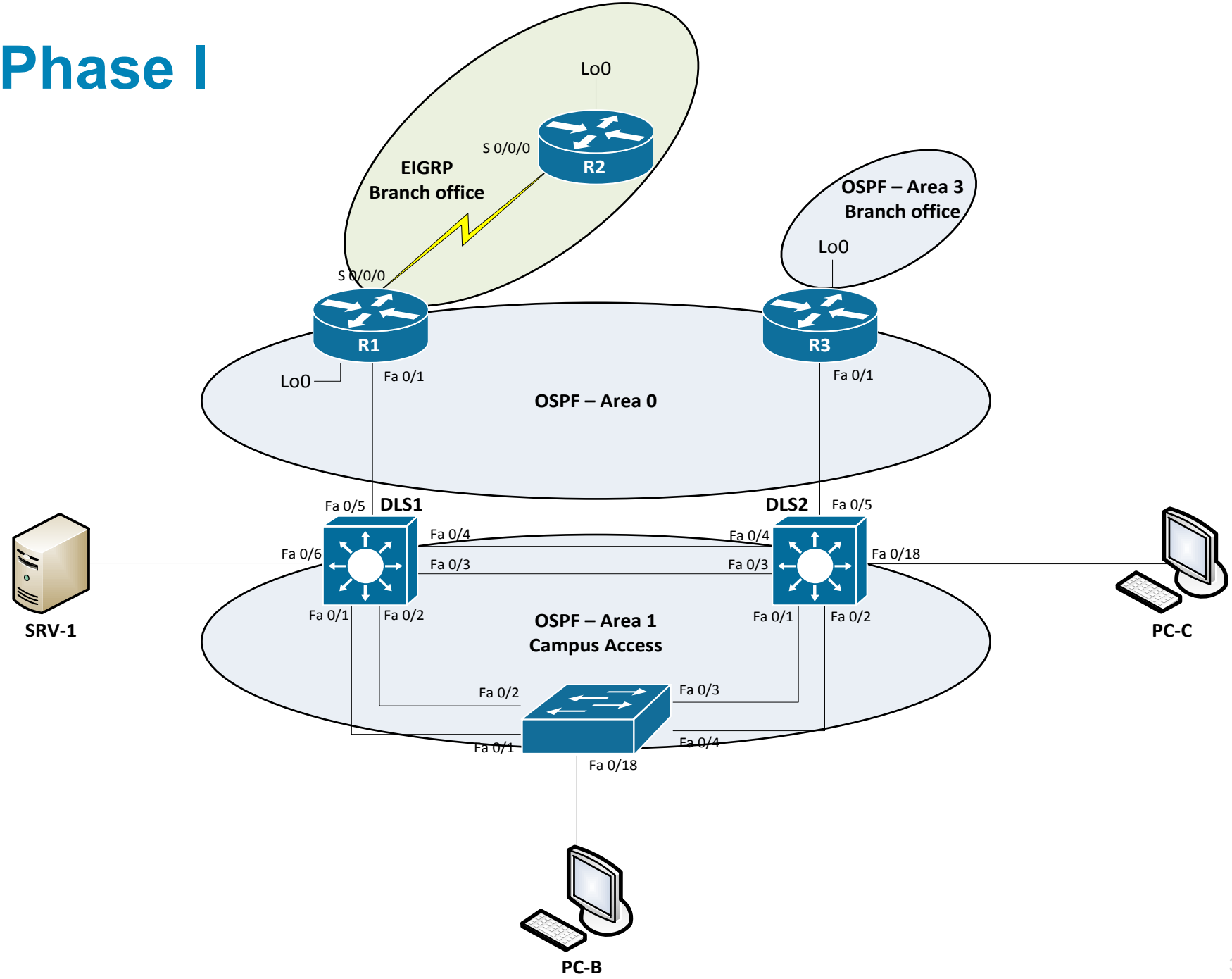
LAB: Module 5

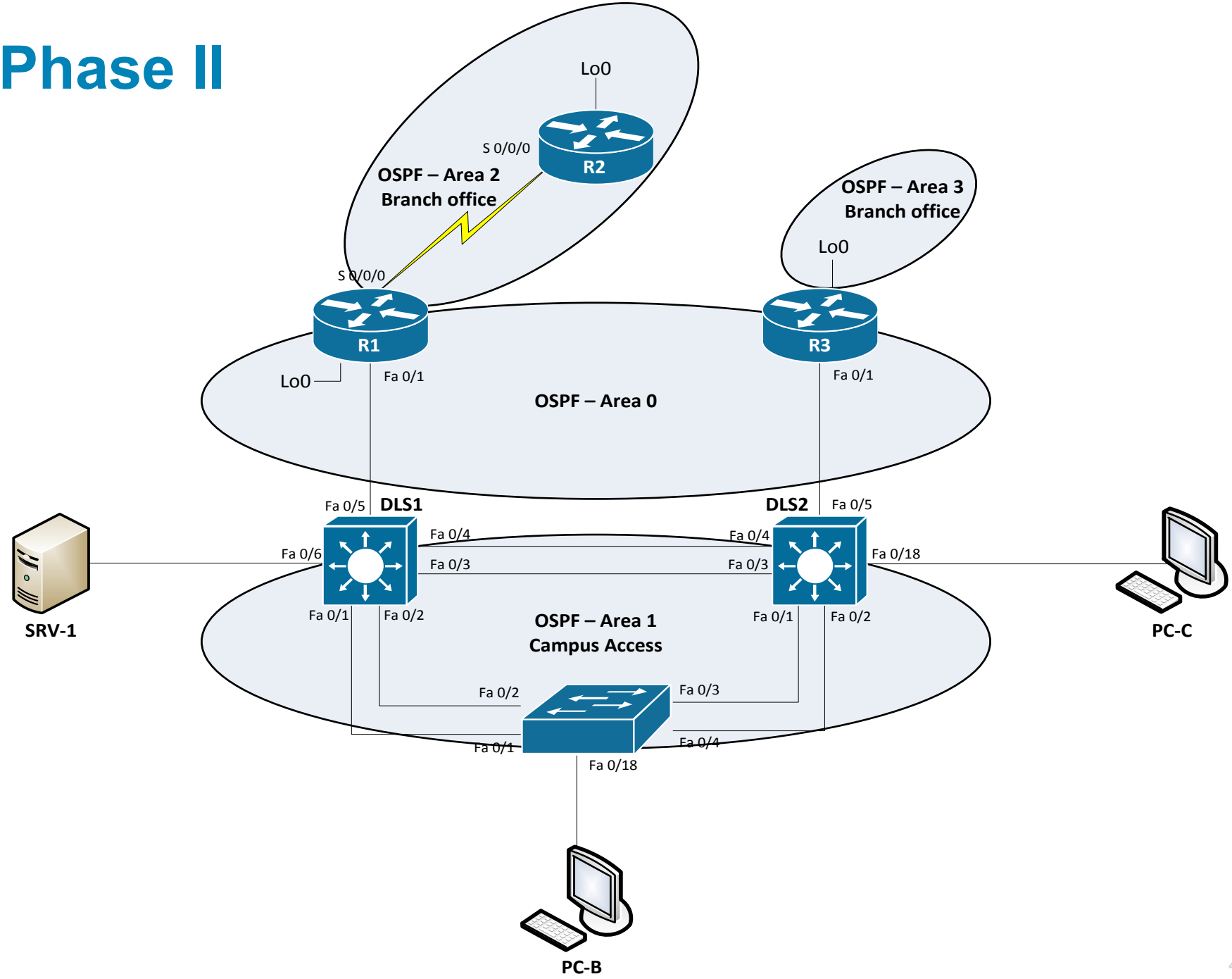
Topology


S 0/0/0
R2
S 0/0/1
S 0/0/0
S 0/0/1
R1
R3
Fa 0/1
Fa 0/1
Fa 0/5
DLS1
DLS2
Fa 0/5
Fa 0/4
Fa 0/4
Fa 0/6
Fa 0/3
Fa 0/3
Fa 0/18
Fa 0/1
Fa 0/2
Fa 0/1
Fa 0/2
SRV-1
IP: 10.1.50.1
Default: 10.1.50.254
PC-C
Fa 0/2
Fa 0/3
Fa 0/1
Fa 0/4
Fa 0/18
PC-B

Phase I


Lo0
S 0/0/0
R2
EIGRP
Branch office
OSPF – Area 3
Branch office
Lo0
S 0/0/0
R1
R3
Lo0
Fa 0/1
Fa 0/1
OSPF – Area 0
Fa 0/5
DLS1
DLS2
Fa 0/5
Fa 0/4
Fa 0/4
Fa 0/6
Fa 0/3
Fa 0/3
Fa 0/18
SRV-1
Fa 0/1
Fa 0/2
Fa 0/1
Fa 0/2
OSPF – Area 1
Campus Access
PC-C
Fa 0/2
Fa 0/3
Fa 0/1
Fa 0/4
Fa 0/18
PC-B

Phase II


Lo0
S 0/0/0
R2
OSPF – Area 2
Branch office
OSPF – Area 3
Branch office
Lo0
S 0/0/0
R1
R3
Lo0
Fa 0/1
Fa 0/1
OSPF – Area 0
Fa 0/5
DLS1
DLS2
Fa 0/5
Fa 0/4
Fa 0/4
Fa 0/6
Fa 0/3
Fa 0/3
Fa 0/18
Fa 0/1
Fa 0/2
Fa 0/1
Fa 0/2
OSPF – Area 1
Campus Access
SRV-1
PC-C
Fa 0/2
Fa 0/3
Fa 0/1
Fa 0/4
Fa 0/18
PC-B

Tasks

- Prepare topology
- Start TFTP server on SRV-1 with config files
- Troubleshoot L3 problems

Trouble ticket Lab 5-2 TT-A

- Load appropriate config files: Lab52-%H-52-TT-A-Cfg
  - %H: hostname e.g. R1
- After the completion of Phase 1—implementation of OSPF in the headquarters portion of the network and the redistribution between EIGRP and OSPF—the connectivity from the office LAN on the R2 branch router to server SRV1 at headquarters is tested. A ping from the R2 LAN client (sourced by Lo0 on R2) to server SRV1 fails.
- Your task is to diagnose this problem and, if possible, resolve it. Connectivity from the R2 LAN to server SRV1 is mandatory to consider this phase of the migration successful.

Trouble ticket Lab 5-2 TT-B

- Load appropriate config files: Lab52-%H-52-TT-B-Cfg
  - %H: hostname e.g. R1
- Phase 2 has been completed and all routers have been converted to OSPF. The connectivity from a branch office client on the R2 LAN (simulated by R2 Lo0) to server SRV1 at the central site is tested. A ping from the client on the R2 LAN (using source interface Lo0) to server SRV1 fails. The connectivity problem is not limited to SRV1. An attempt to connect to other headquarters servers also fails.
- Your task is to diagnose this problem and, if possible, resolve it. Connectivity from the branch client to server SRV1 is mandatory for this phase of the migration to be considered successful.

Trouble ticket Lab 5-2 TT-C

- Load appropriate config files: Lab52-%H-52-TT-C-Cfg
  - %H: hostname e.g. R1
- After implementing OSPF, connectivity from the branch office on R3 (simulated by Lo0) to SRV1 is not working. A ping from PC-B to server SRV1 succeeds, but pings from R3 Lo0 to SRV1 fail.
- Your task is to diagnose this problem and, if possible, resolve it. Connectivity from R3 branch office clients to server SRV1 is mandatory for this phase of the migration to be considered successful.

Trouble ticket Lab 5-2 TT-D

- Load appropriate config files: Lab52-%H-52-TT-D-Cfg
  - %H: hostname e.g. R1
- A recent security audit suggested that it would be best practice to secure the OSPF implementation by using MD5 authentication between the routers. Because this could complicate the implementation, it was decided that it was too late to include this now for all areas. However, to test the concept, it was decided to enable the authentication for area 0 for two devices. If the test is successful, the authentication will be added to other areas during the second phase of the implementation. If the test is not successful, a separate project will be initiated to implement the authentication.
- One of your colleagues has enabled MD5 authentication for area 0 on VLAN 200, which is the link between the core switches DLS1 and DLS2 in area 0. Unfortunately, the neighbor relationship between DLS1 and DLS2 on VLAN 200 is not established.
- Your task is to diagnose this problem and, if possible, resolve it. After correcting the OSPF neighbor relationship, verify that OSPF authentication between DLS1 and DLS2 is functioning correctly. You may disable the password encryption service during authentication testing.

Lab created by Vladimír Veselý and Matěj Grégr for C3P

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