Building the ICND1 Lab Network:

LAYER 3 SWITCH AND SWITCHES

Ross Bagurdes
NETWORK ENGINEER

@bagurdes

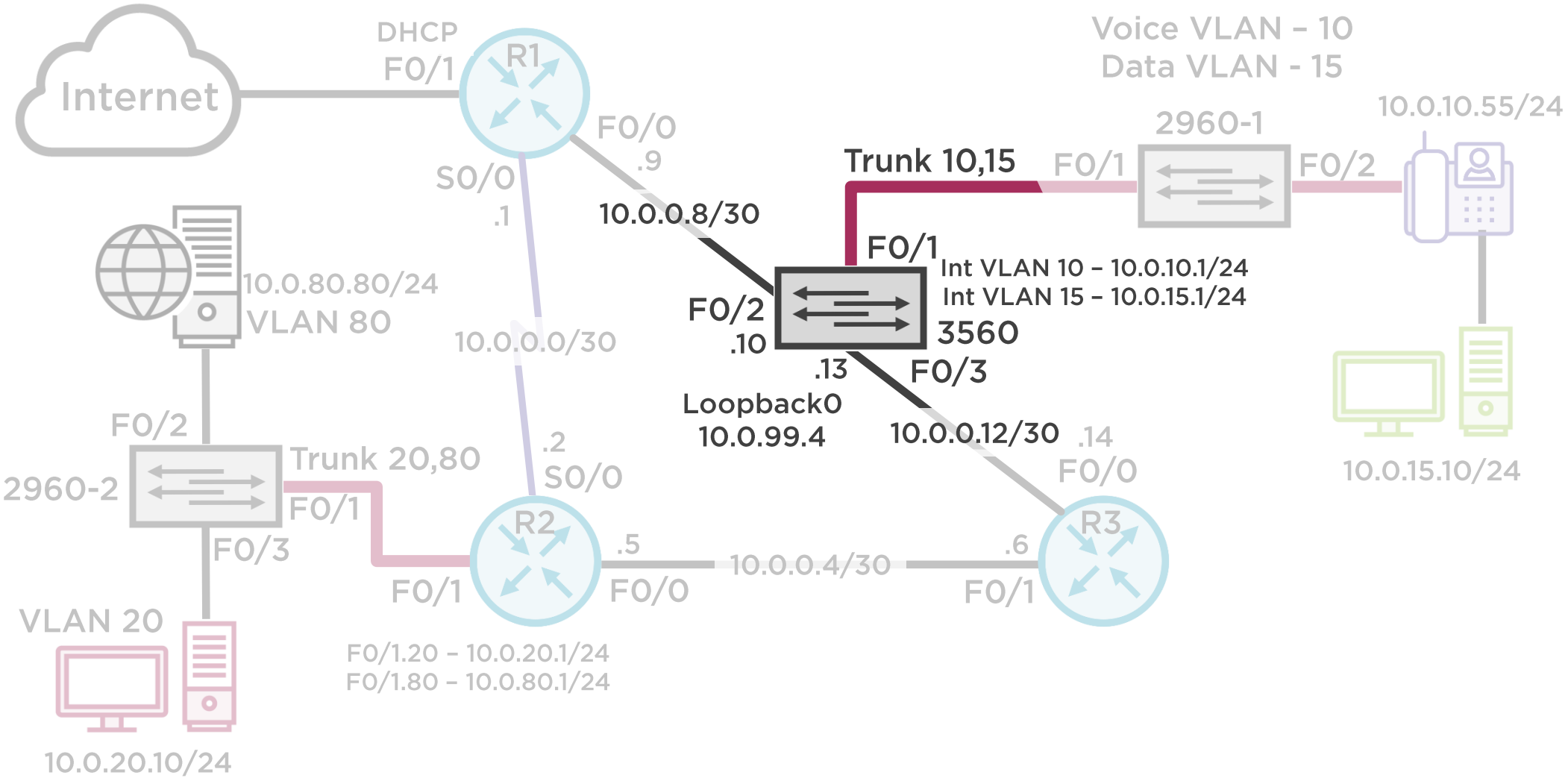
Module Goals

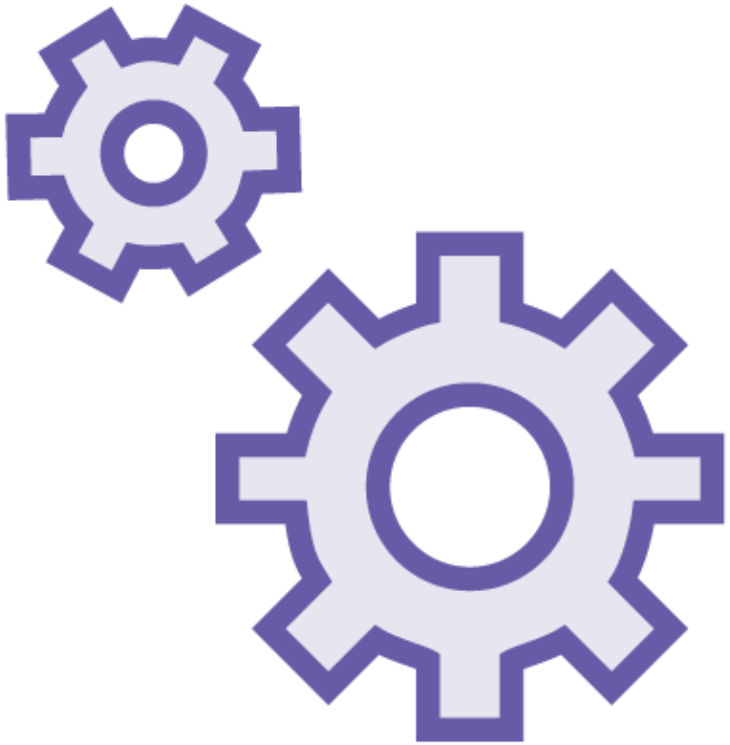
Build ICND1 lab network

Use Notepad to build configurations

Configure 3560

Lab Network


Internet
DHCP
F0/1
R1
F0/0
.9
S0/0
.1
10.0.0.8/30
Voice VLAN – 10
Data VLAN - 15
2960-1
10.0.10.55/24
Trunk 10,15
F0/1
F0/2
F0/1
Int VLAN 10 – 10.0.10.1/24
Int VLAN 15 – 10.0.15.1/24
F0/2
.10
3560
.13
F0/3
Loopback0
10.0.99.4
10.0.0.12/30
.14
F0/0
10.0.15.10/24
10.0.80.80/24
VLAN 80
10.0.0.0/30
F0/2
2960-2
Trunk 20,80
F0/1
F0/3
.2
S0/0
R2
.5
10.0.0.4/30
.6
R3
F0/1
F0/0
F0/1
VLAN 20
F0/1.20 – 10.0.20.1/24
F0/1.80 – 10.0.80.1/24
10.0.20.10/24

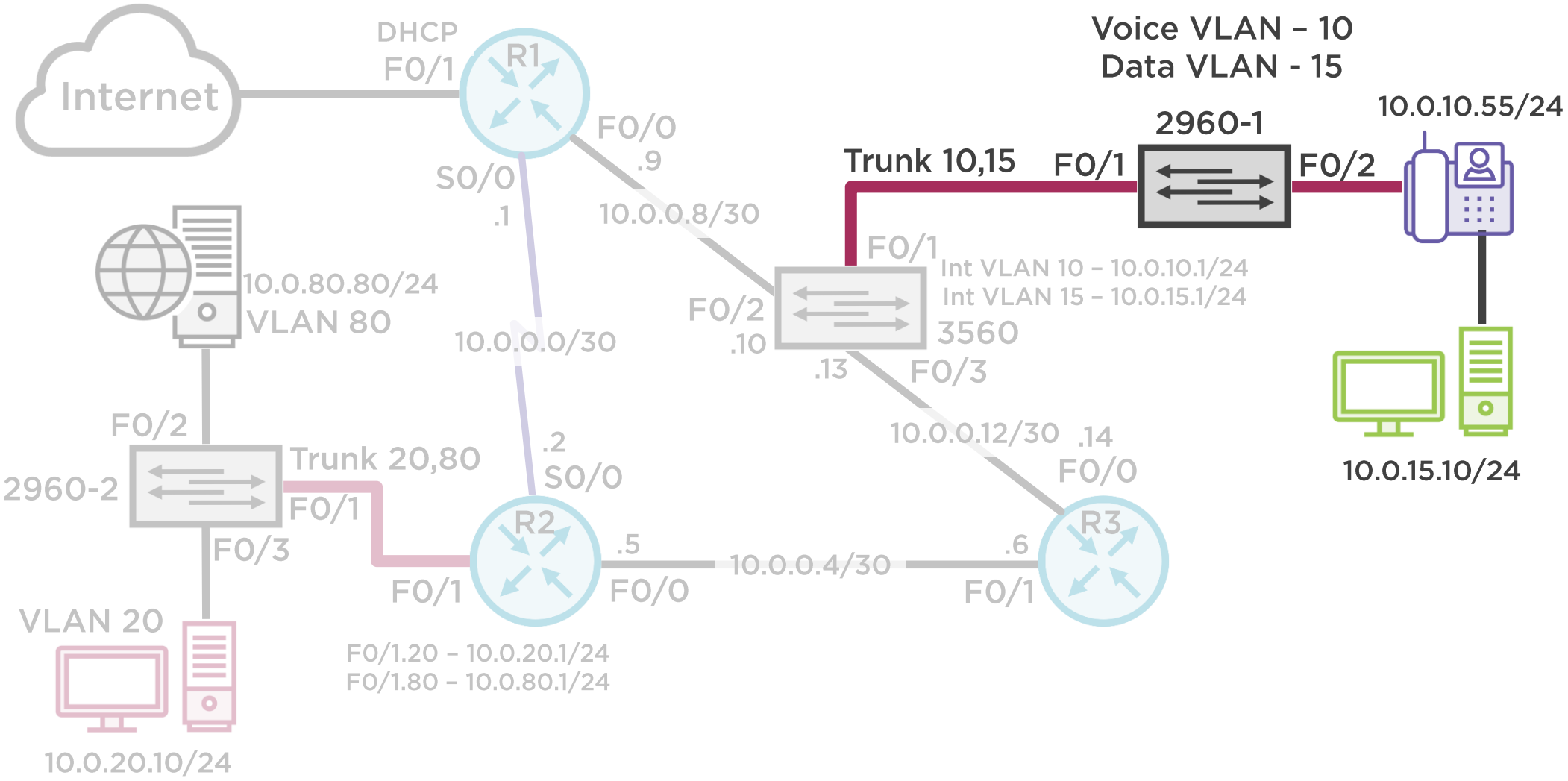


3560 Configuration Tasks

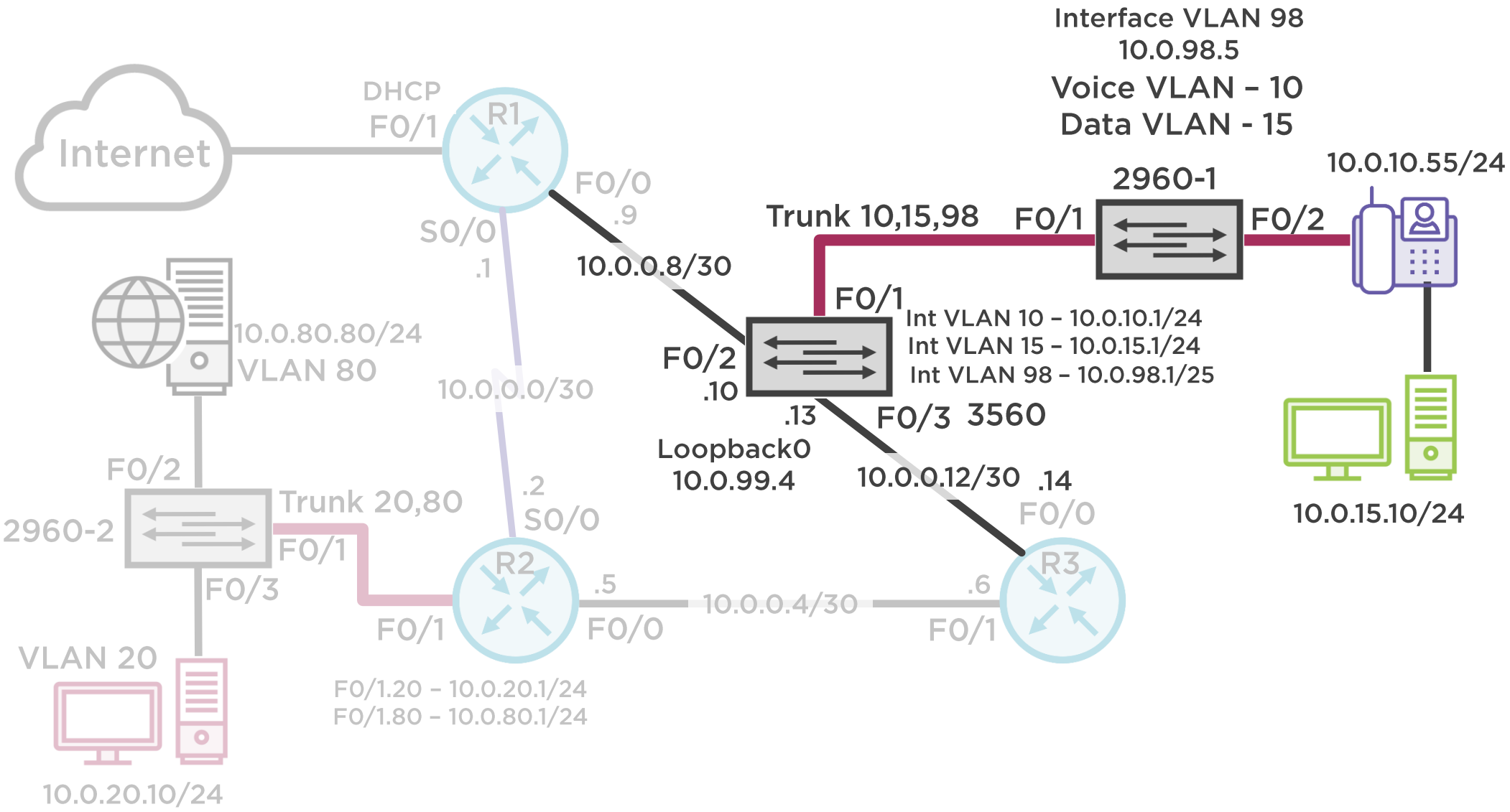
- Use Notepad edit base config
- Paste base config on 3560
- Configure VLANs
- Secure switchports
- Configure trunk on F0/1
- Configure interface VLANs
- Configure F0/2 and F0/3 as ‘no switchport’
- Enable OSPF routing
- Copy config to Notepad

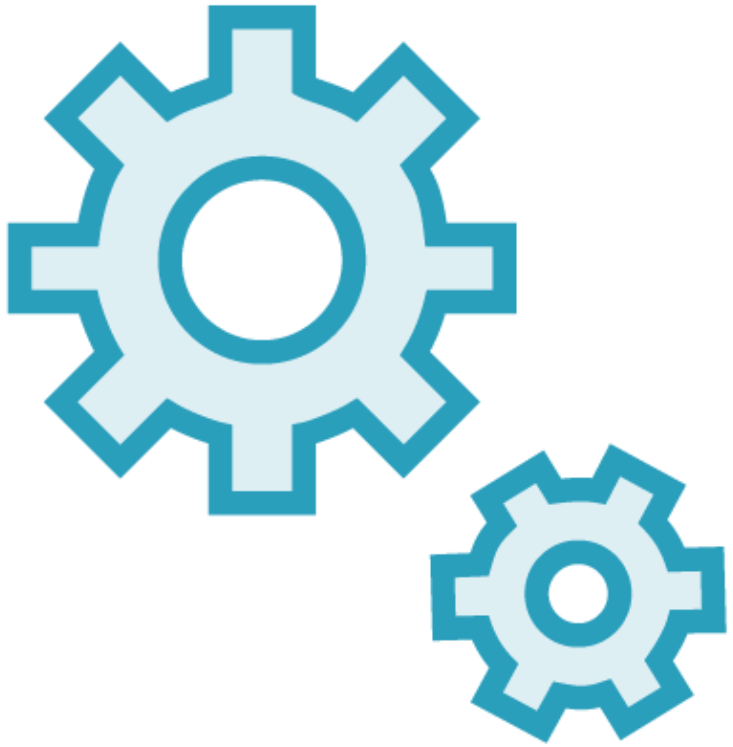
Configure 2960-1

Lab Network


Internet
DHCP
F0/1
R1
F0/0
.9
S0/0
.1
10.0.0.8/30
Voice VLAN – 10
Data VLAN - 15
2960-1
10.0.10.55/24
Trunk 10,15
F0/1
F0/2
F0/1
Int VLAN 10 – 10.0.10.1/24
Int VLAN 15 – 10.0.15.1/24
F0/2
.10
3560
.13
F0/3
10.0.80.80/24
VLAN 80
10.0.0.0/30
10.0.0.12/30
.14
F0/2
.2
S0/0
F0/0
2960-2
Trunk 20,80
F0/1
R2
.5
10.0.0.4/30
.6
R3
F0/3
F0/1
F0/0
F0/1
VLAN 20
F0/1.20 – 10.0.20.1/24
F0/1.80 – 10.0.80.1/24
10.0.15.10/24
10.0.20.10/24

Lab Network


Interface VLAN 98
10.0.98.5
Voice VLAN – 10
Data VLAN - 15
Internet
DHCP
F0/1
R1
F0/0
.9
S0/0
.1
10.0.0.8/30
2960-1
Trunk 10,15,98
F0/1
F0/2
10.0.10.55/24
F0/1
Int VLAN 10 – 10.0.10.1/24
Int VLAN 15 – 10.0.15.1/24
Int VLAN 98 – 10.0.98.1/25
F0/2
.10
.13
F0/3 3560
Loopback0
10.0.99.4
10.0.0.12/30 .14
10.0.15.10/24
10.0.80.80/24
VLAN 80
10.0.0.0/30
F0/2
2960-2
Trunk 20,80
F0/1
F0/3
.2
S0/0
R2
.5
10.0.0.4/30
.6
F0/0
R3
F0/1
F0/0
F0/1
VLAN 20
F0/1.20 – 10.0.20.1/24
F0/1.80 – 10.0.80.1/24
10.0.20.10/24



2960-1 Configuration Tasks

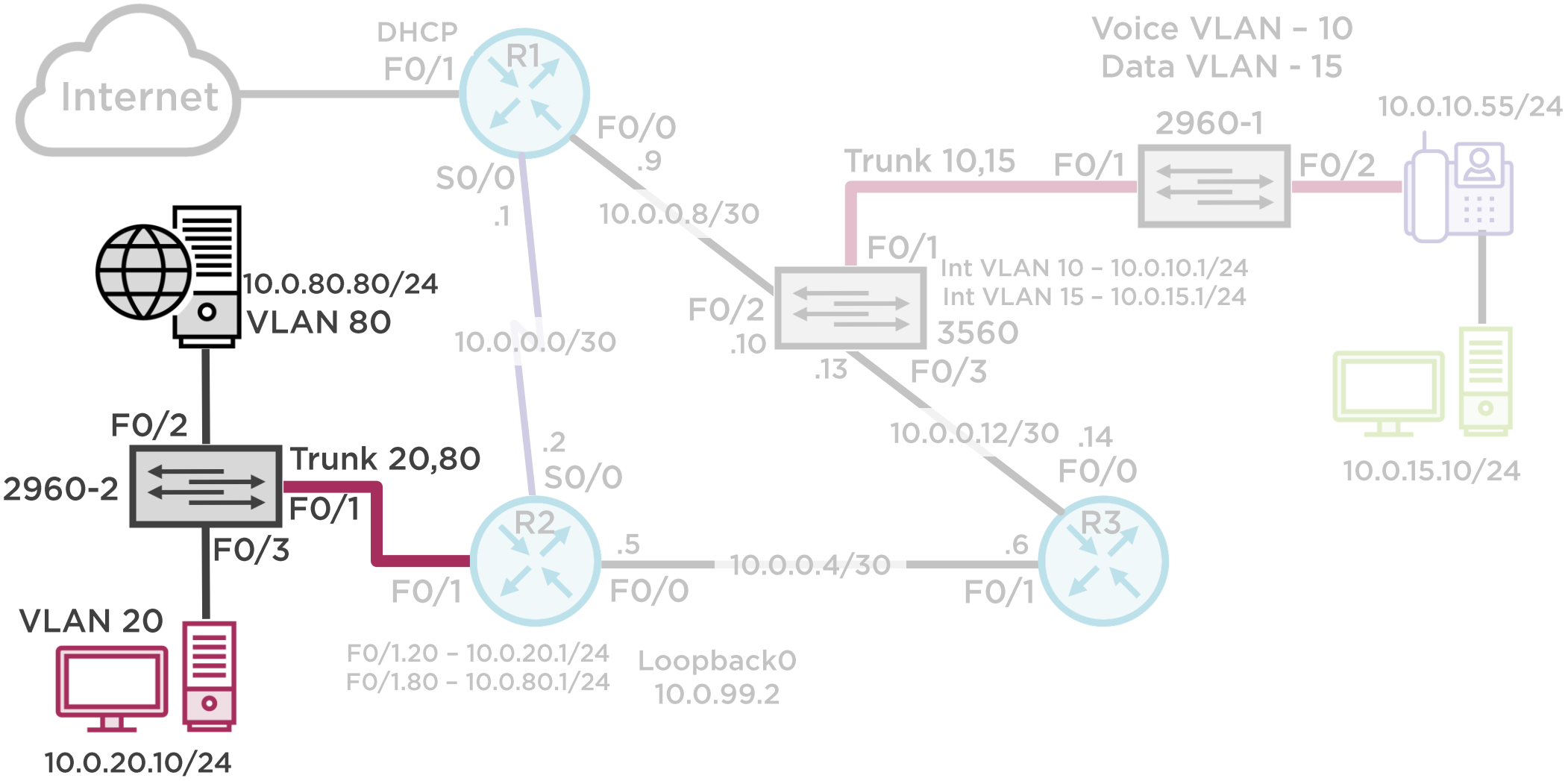
- Use Notepad edit base config
- Paste base config on 2960
- Configure VLANs
- Configure interface VLAN 98
- Configure int F0/2 as voice/data port
- Set default gateway

3560 Configuration Tasks

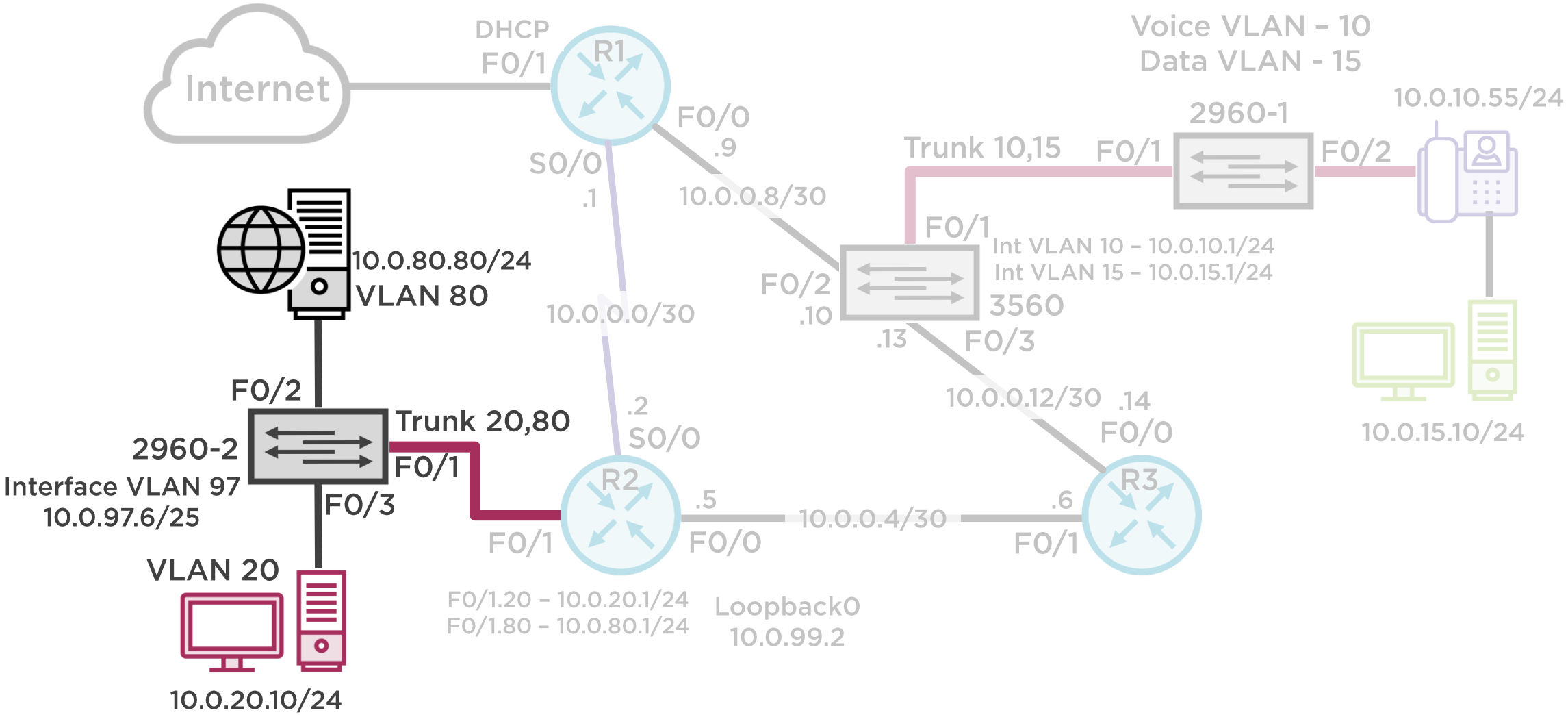
- Create VLAN 98
- Create int VLAN 98
- Add VLAN 98 to trunk link
- Advertise 10.0.98.0/25 in OSPF

Configure 2960-2

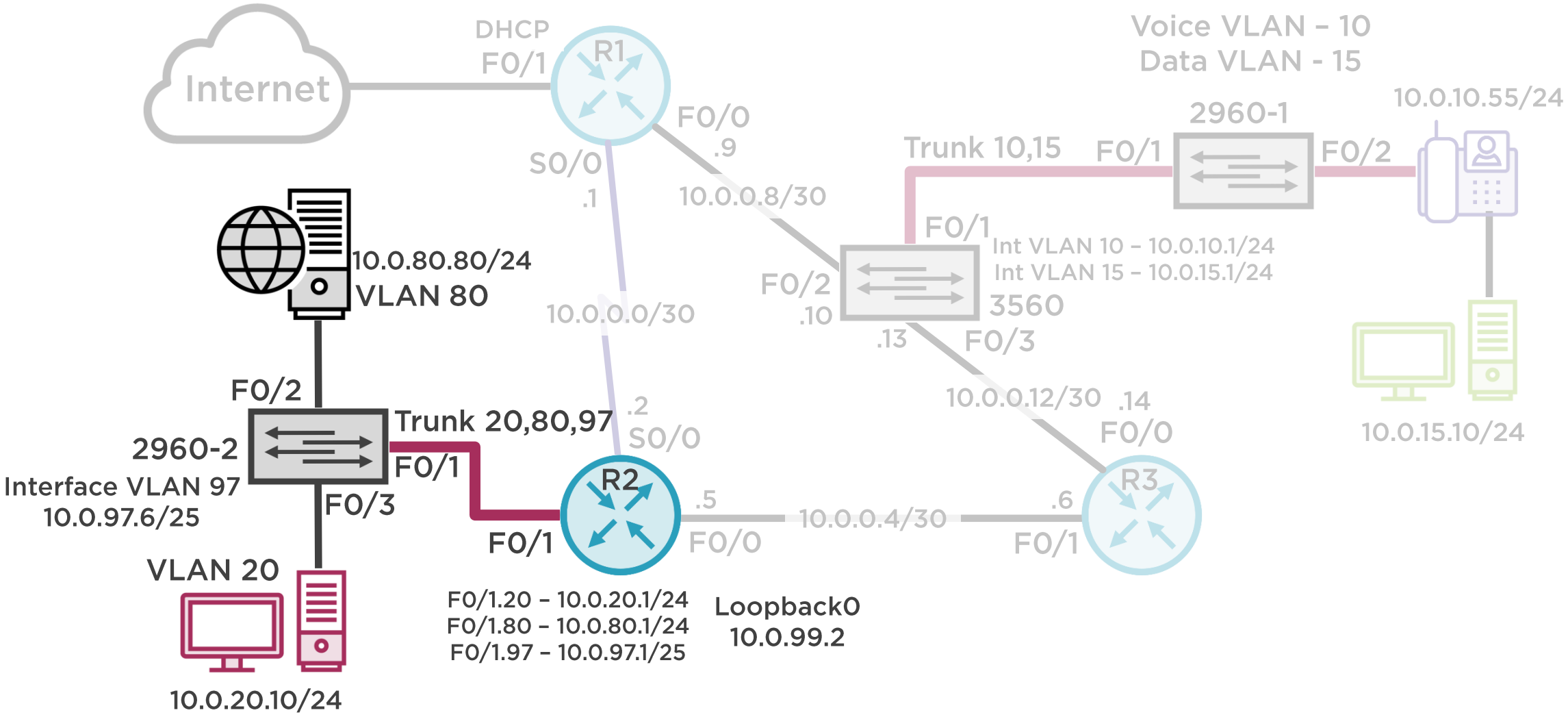
Lab Network

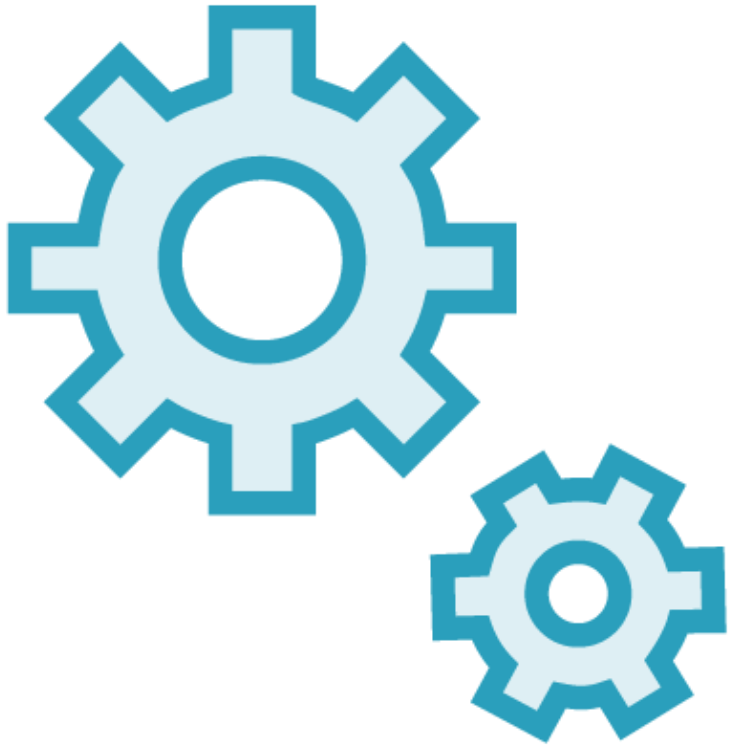

Internet
DHCP
F0/1
R1
F0/0
.9
10.0.0.8/30
S0/0
.1
10.0.0.0/30
Voice VLAN – 10
Data VLAN - 15
2960-1
10.0.10.55/24
Trunk 10,15
F0/1
F0/2
F0/1
Int VLAN 10 – 10.0.10.1/24
Int VLAN 15 – 10.0.15.1/24
F0/2
.10
3560
.13
F0/3
10.0.0.12/30
.14
F0/0
10.0.15.10/24
10.0.80.80/24
VLAN 80
F0/2
2960-2
Trunk 20,80
F0/1
F0/3
.2
S0/0
R2
.5
10.0.0.4/30
.6
R3
F0/1
F0/0
F0/1
VLAN 20
F0/1.20 – 10.0.20.1/24
F0/1.80 – 10.0.80.1/24
Loopback0
10.0.99.2
10.0.20.10/24

Lab Network


Internet
DHCP
F0/1
R1
F0/0
.9
10.0.0.8/30
S0/0
.1
10.0.0.0/30
.2
S0/0
R2
F0/1
.5
F0/0
10.0.0.4/30
.6
F0/1
R3
F0/0
.14
10.0.0.12/30
.13
F0/3
3560
F0/2
.10
F0/1
Int VLAN 10 – 10.0.10.1/24
Int VLAN 15 – 10.0.15.1/24
Trunk 10,15
F0/1
2960-1
F0/2
Voice VLAN – 10
Data VLAN - 15
10.0.10.55/24
10.0.15.10/24
10.0.80.80/24
VLAN 80
F0/2
2960-2
Trunk 20,80
F0/1
Interface VLAN 97
10.0.97.6/25
F0/3
VLAN 20
10.0.20.10/24
F0/1.20 – 10.0.20.1/24
F0/1.80 – 10.0.80.1/24
Loopback0
10.0.99.2

Lab Network


Internet
DHCP
F0/1
R1
F0/0
.9
10.0.0.8/30
S0/0
.1
10.0.0.0/30
Voice VLAN – 10
Data VLAN - 15
2960-1
Trunk 10,15
F0/1
F0/2
10.0.10.55/24
F0/1
Int VLAN 10 – 10.0.10.1/24
Int VLAN 15 – 10.0.15.1/24
F0/2
.10
3560
.13
F0/3
10.0.0.12/30
.14
F0/0
10.0.15.10/24
10.0.80.80/24
VLAN 80
F0/2
Trunk 20,80,97
2960-2
F0/1
Interface VLAN 97
10.0.97.6/25
F0/3
.2
S0/0
R2
R3
.5
10.0.0.4/30
.6
F0/0
F0/1
F0/1
VLAN 20
F0/1.20 – 10.0.20.1/24
F0/1.80 – 10.0.80.1/24
F0/1.97 – 10.0.97.1/25
Loopback0
10.0.99.2
10.0.20.10/24



2960-2 Configuration Tasks

- Use Notepad edit base config
- Paste base config on 2960
- Configure VLANs
- Configure interface VLAN 97
- Configure trunk link on F0/1
- Set default gateway

R3 Configuration Tasks

- Create interface F0/1.97
- Advertise 10.0.97.0/25 in OSPF

Summary

Build ICND1 lab network

Use Notepad to build configurations