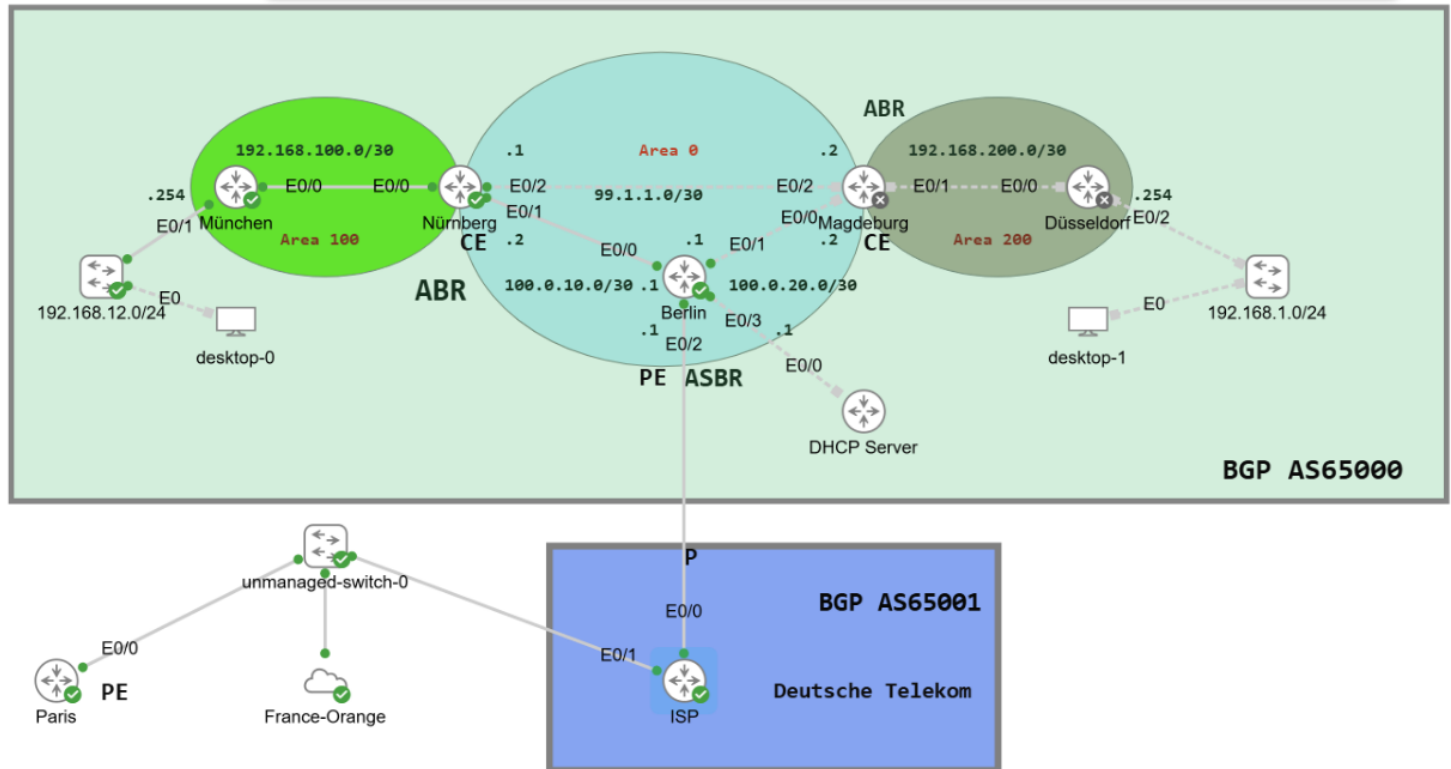


MPLS auf den Transport-Interfaces zwischen:

BERLIN ↔ ISP-Telekom

ISP-Telekom ↔ Paris



Auf BERLIN

```
enable
conf t
!
! Hostname setzen
hostname BERLIN
!
! MPLS auf dem Interface zum Provider aktivieren
interface Ethernet0/2
description TO-ISP-TELEKOM
mpls ip
no shutdown
!
end
write memory
```

Auf ISP-Telekom

```
enable
conf t
!
hostname ISP-Telekom
!
! MPLS Richtung BERLIN aktivieren
interface Ethernet0/0
description TO-BERLIN
mpls ip
no shutdown
!
! MPLS Richtung Paris aktivieren
interface Ethernet0/1
description TO-PARIS
mpls ip
no shutdown
!
end
write memory
```

Auf Paris

```
enable
conf t
!
hostname Paris
!
! MPLS auf dem Interface zum Provider aktivieren
interface Ethernet0/0
description TO-ISP-TELEKOM
mpls ip
no shutdown
!
end
write memory
```

BGP für MPLS-Transport aktivieren

Auf BERLIN

```
enable
conf t
!
router bgp 65000
  bgp log-neighbor-changes
  no bgp default ipv4-unicast
  !
  ! Nachbar = ISP
  neighbor 88.1.1.2 remote-as 65001
  !
  address-family ipv4
    ! BGP-Neighbor aktivieren
    neighbor 88.1.1.2 activate
    !
    ! Labels über BGP mitsenden
    neighbor 88.1.1.2 send-label
    !
    ! Eigene Loopback ankündigen
    network 220.220.220.220 mask 255.255.255.255
    !
    ! OSPF-Routen ins BGP übernehmen
    redistribute ospf 220
  exit-address-family
  !
end
write memory
```

Auf ISP-Telekom

```
enable
conf t
!
router bgp 65001
  bgp log-neighbor-changes
  no bgp default ipv4-unicast
  !
  ! Nachbar links = BERLIN
  neighbor 88.1.1.1 remote-as 65000
  !
  ! Nachbar rechts = Paris
  neighbor 192.168.255.217 remote-as 40000
  !
  address-family ipv4
    ! BERLIN aktivieren
    neighbor 88.1.1.1 activate
    neighbor 88.1.1.1 send-label
    !
    ! Paris aktivieren
    neighbor 192.168.255.217 activate
    neighbor 192.168.255.217 send-label
    !
    ! Eigene Netze/Loopback ankündigen
    network 33.33.33.33 mask 255.255.255.255
    network 88.1.1.0 mask 255.255.255.252
    network 192.168.255.0 mask 255.255.255.0
  exit-address-family
  !
end
write memory
```

Auf Paris

```
enable
conf t
!
router bgp 40000
  bgp log-neighbor-changes
  no bgp default ipv4-unicast
  !
  ! Nachbar = ISP
  neighbor 192.168.255.126 remote-as 65001
  !
  address-family ipv4
    ! Neighbor aktivieren
    neighbor 192.168.255.126 activate
    !
    ! Labels über BGP mitsenden
    neighbor 192.168.255.126 send-label
    !
    ! Eigene Loopback ankündigen
    network 44.44.44.44 mask 255.255.255.255
  exit-address-family
  !
end
write memory
```

Show Commands

OSPF

show ip ospf neighbor
show ip route ospf
show ip ospf interface brief
show ip ospf database

BGP

show ip bgp summary
show ip bgp
show ip bgp neighbors
show ip route bgp

MPLS

show mpls interfaces
show mpls forwarding-table
show mpls ldp neighbor
show mpls ldp discovery
show mpls ldp bindings

Traffic-Test

ping 44.44.44.44 source 220.220.220.220
ping 220.220.220.220 source 44.44.44.44
traceroute 44.44.44.44 source 220.220.220.220
traceroute 220.220.220.220 source 44.44.44.44