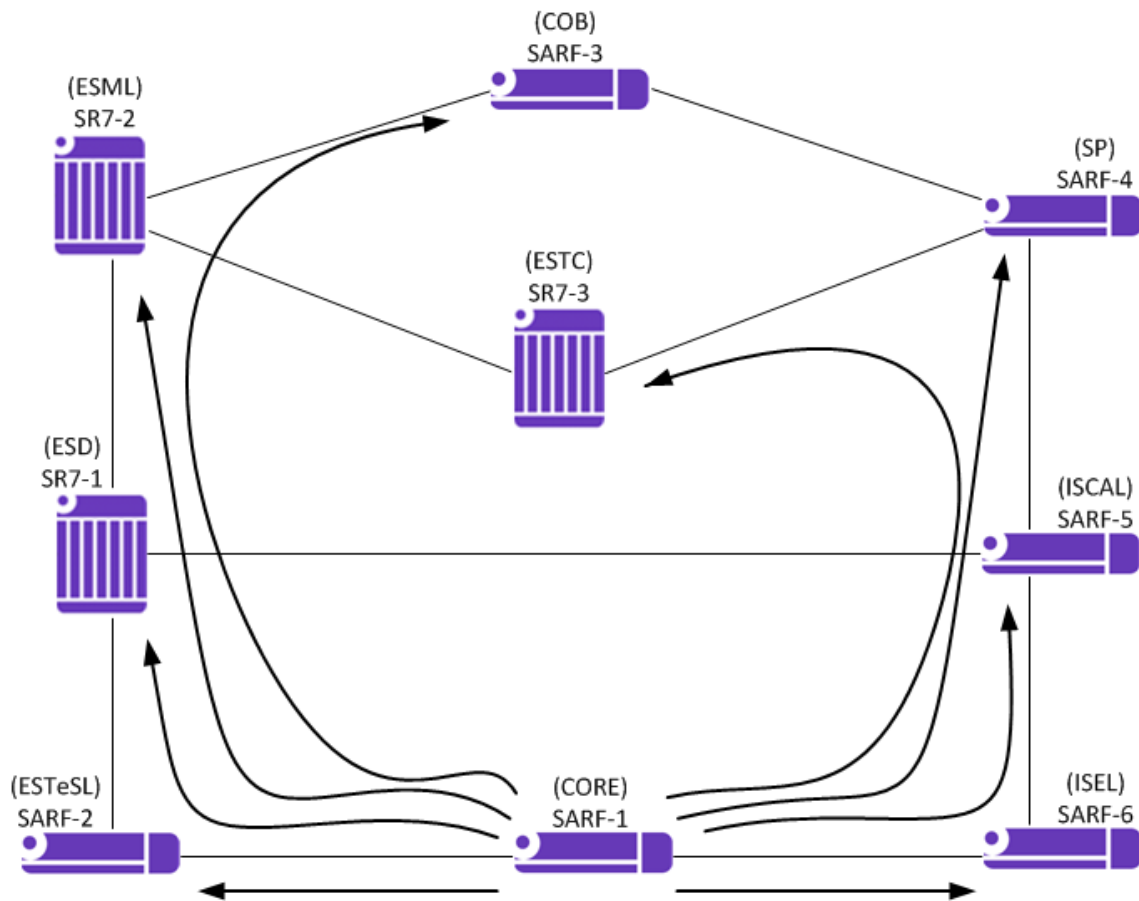


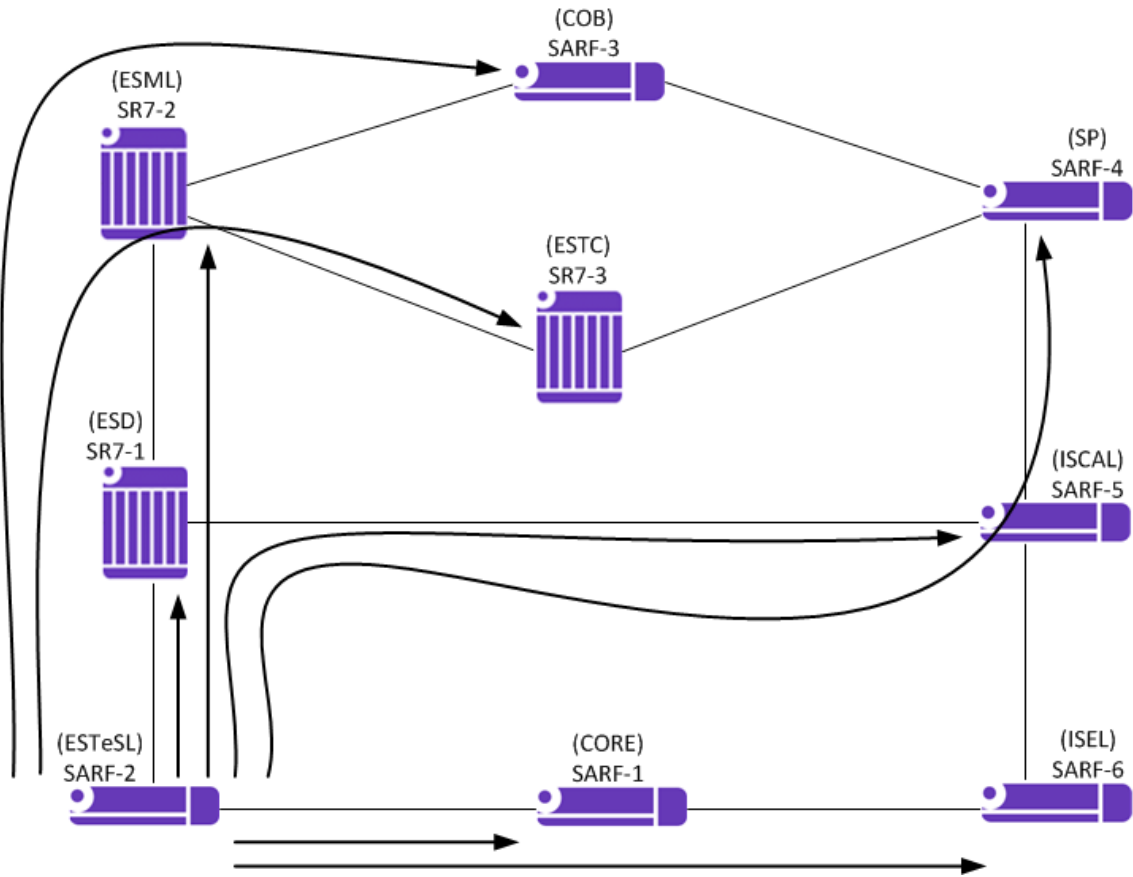
8. Anexos

Planeamento dos caminhos estabelecidos pelos LSP em cada router

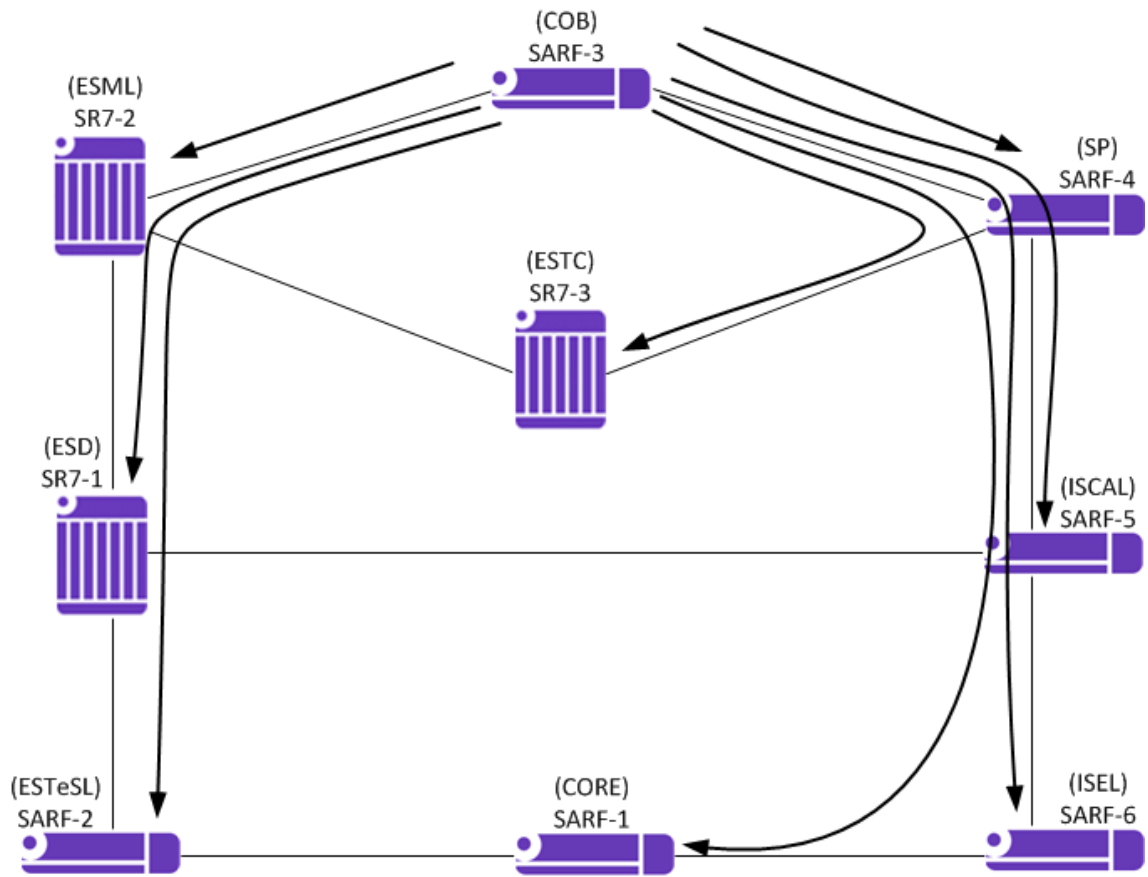
8.1. 8.1.1. Router SARF-1(CORE)



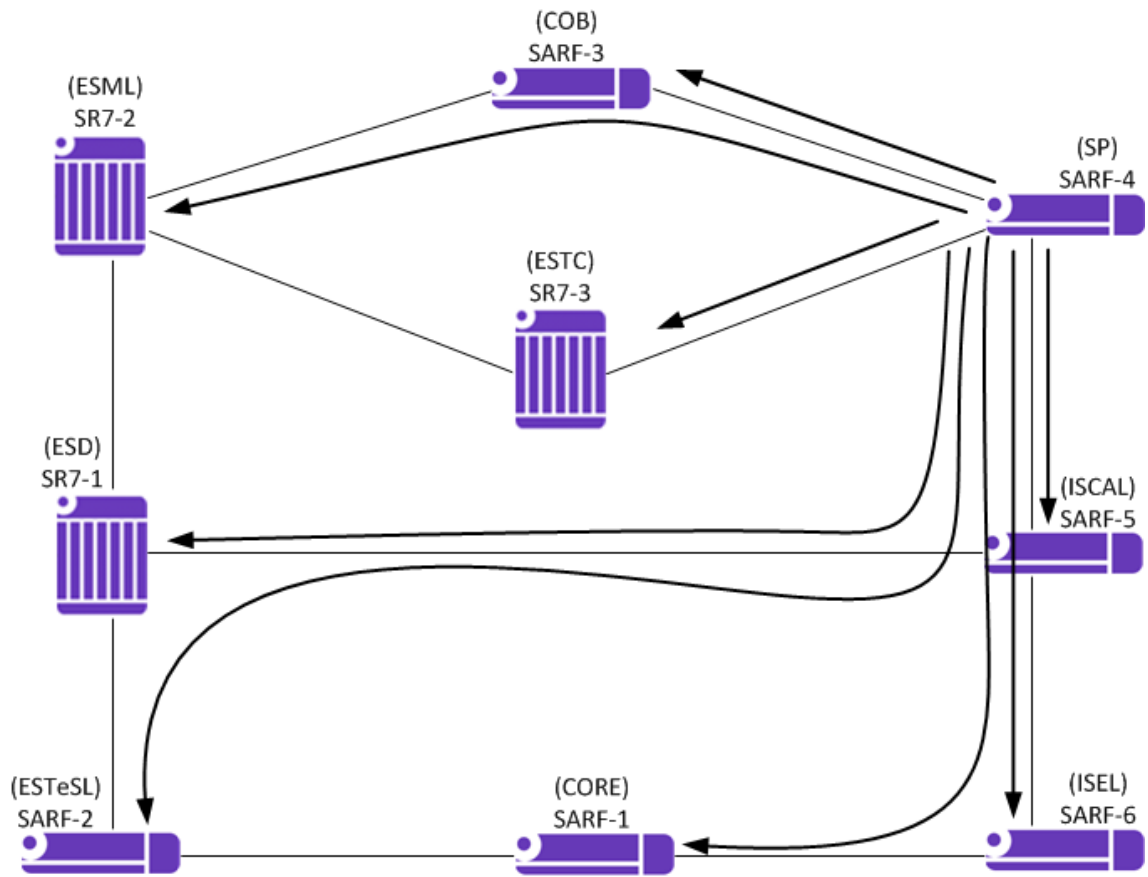
8.1.2. Router SARF-2(ESTeSL)



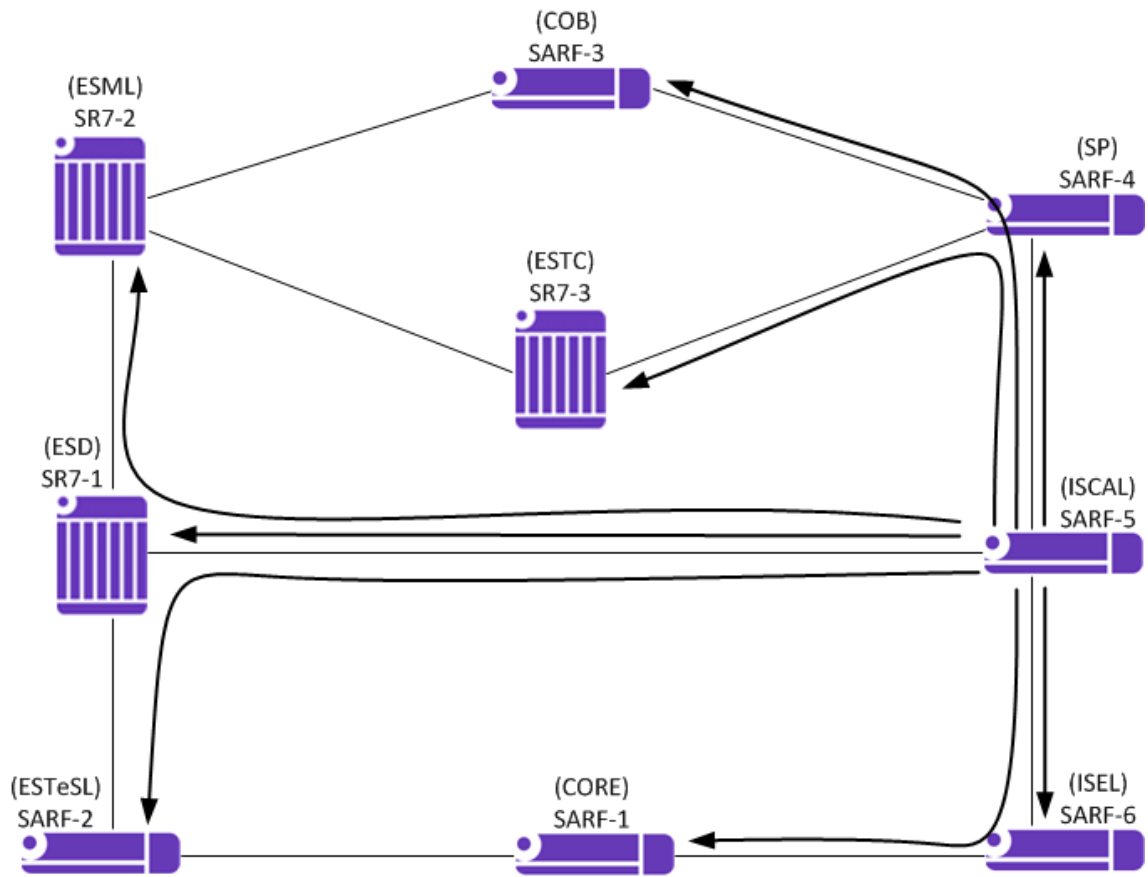
8.1.3. Router SARF-3(COB)



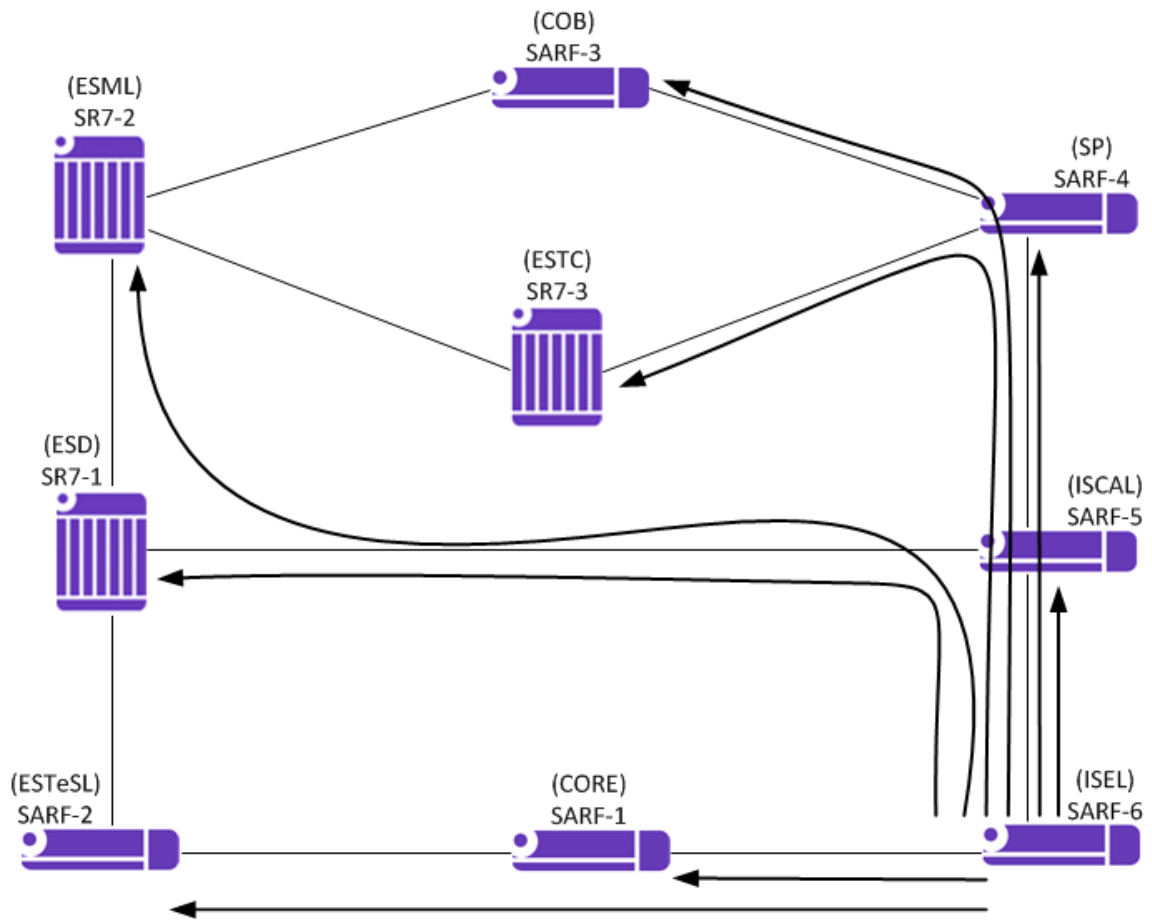
8.1.4. Router SARF-4(SP)



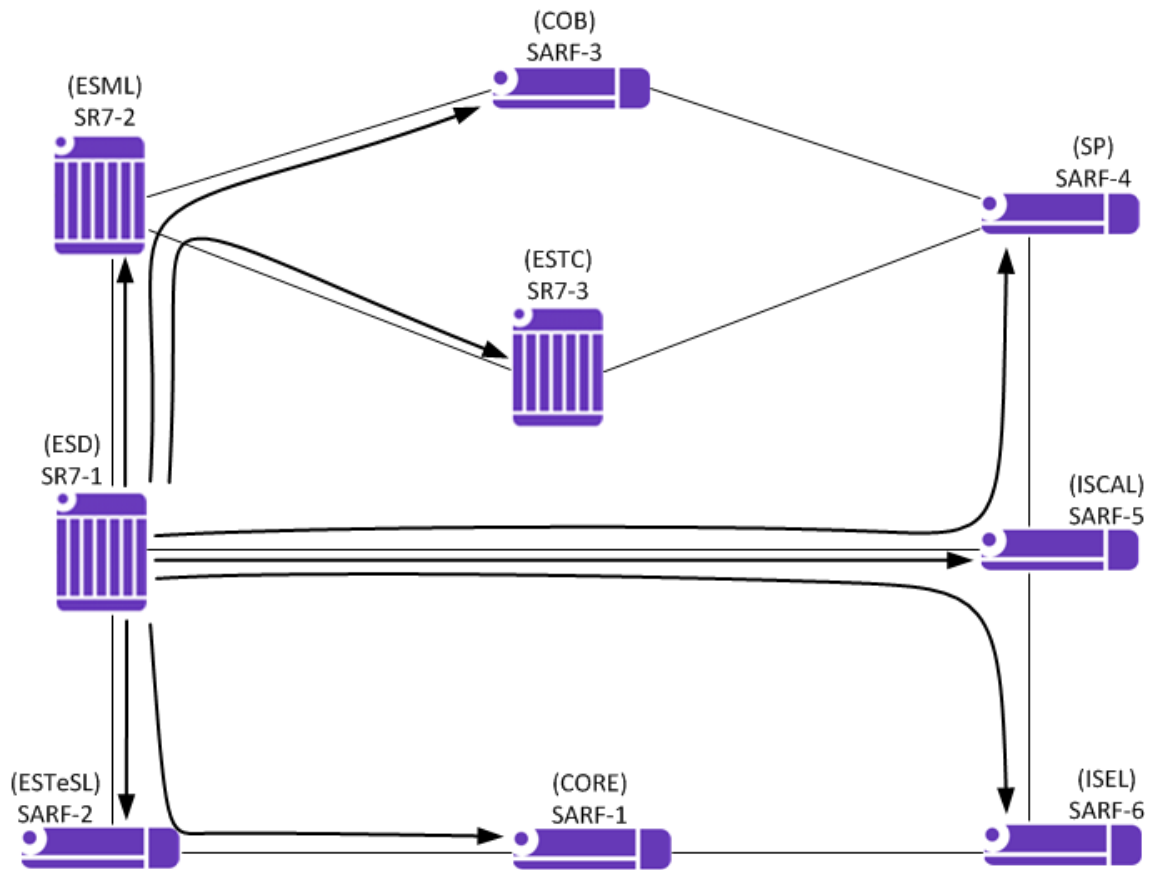
8.1.5. Router SARF-5(ISCAL)



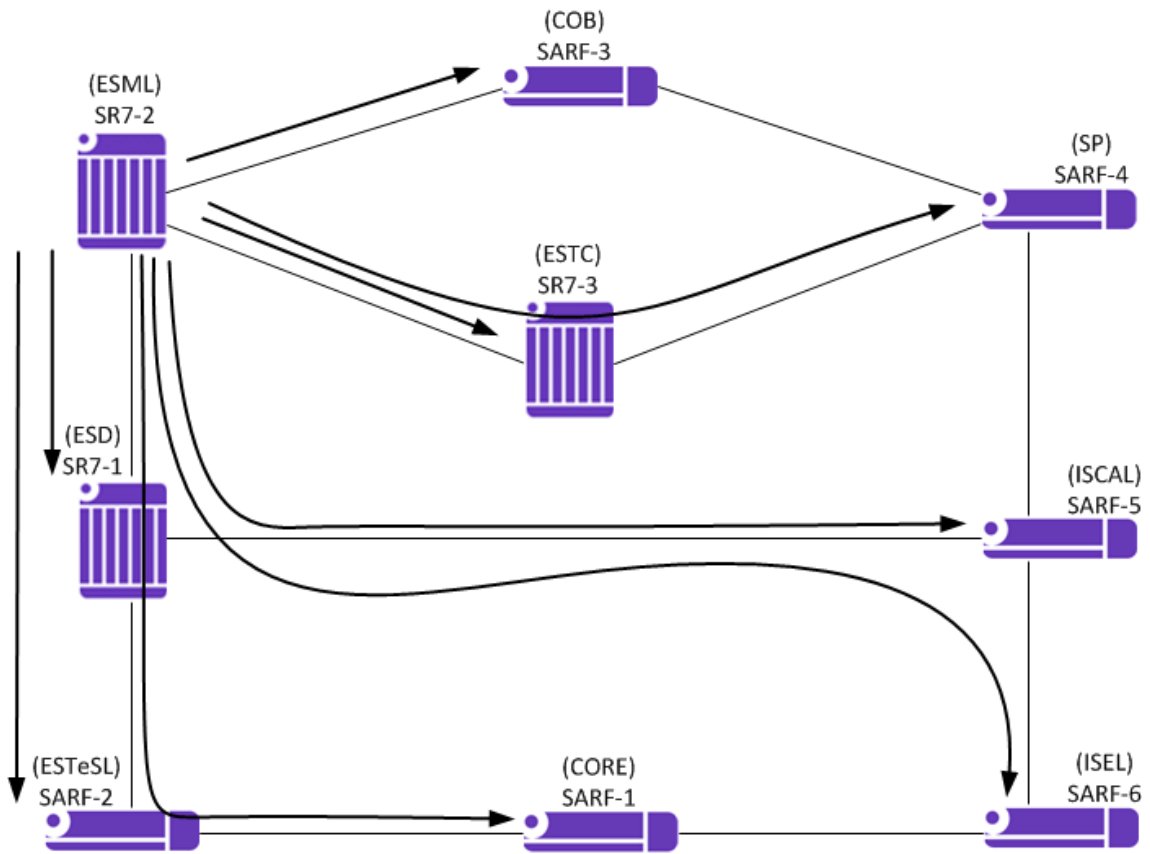
8.1.6. Router SARF-6(ISEL)



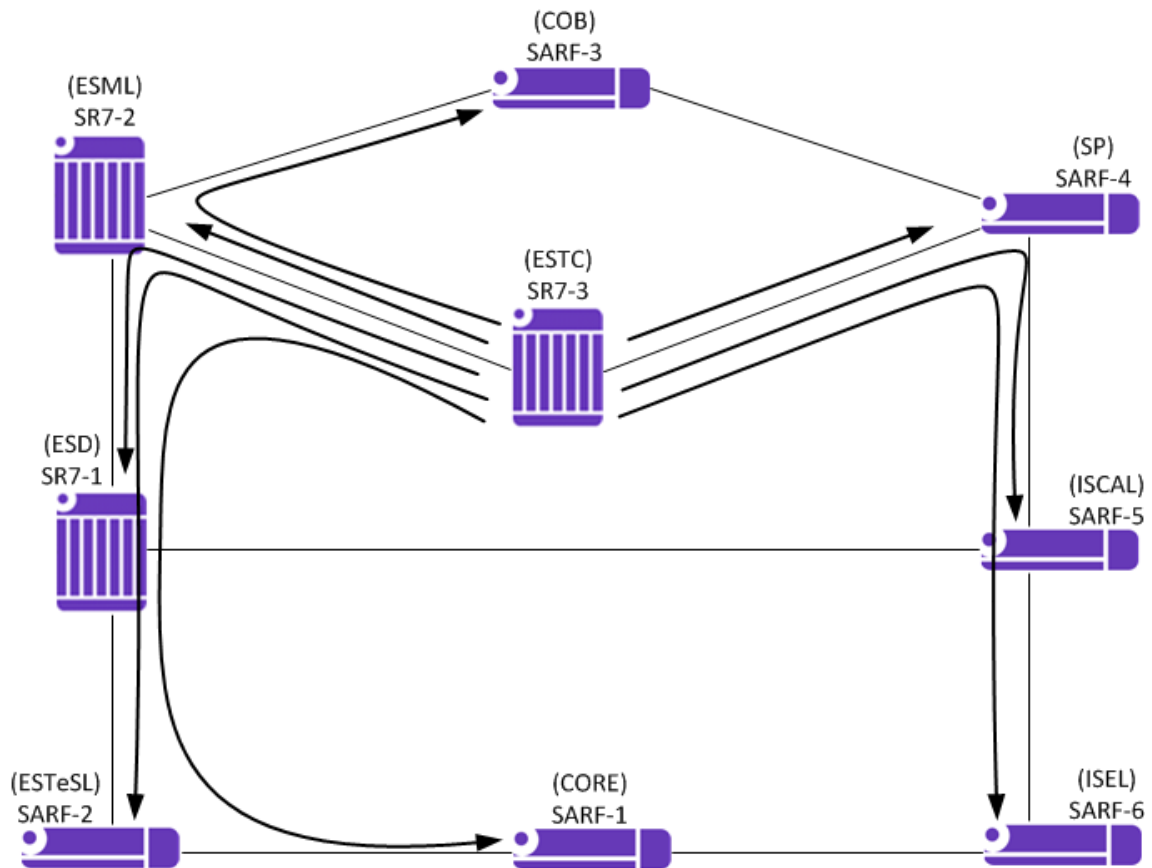
8.1.7. Router SR7-1(ESD)



8.1.8. Router SR7-2(ESML)



8.1.9. Router SR7-3(ESTC)



8.2. Configuração LDP dos *routers* PE utilizados nos testes

8.2.1. Router SARF-1(CORE)

```
A:SARF-1(CORE)# admin display-config
```

```
#-----  
echo "System Configuration"  
#-----  
system  
  name "SARF-1(CORE) "  
  snmp  
    shutdown  
  exit  
  time  
    sntp  
      shutdown  
  exit  
  zone UTC  
  exit  
  thresholds  
    rmon  
  exit  
  exit  
  exit  
#-----  
echo "System Security Configuration"  
#-----
```

```

system
  security
    ftp-server
      user "admin"
        password ".wwBSCf55BeJQsICA8BrJ." hash2
        access console ftp
        console
          member "administrative"
        exit
      exit
    exit
  exit
exit
#-----
echo "Log Configuration"
#-----
  log
  exit
#-----
echo "System Security Cpm Hw Filters Configuration"
#-----
  system
    security
    exit
  exit
#-----
echo "VLAN-Filter Configuration"
#-----
  filter
  exit
#-----
echo "QoS Policy Configuration"
#-----
  qos
  exit
#-----
echo "Card Configuration"
#-----
  card 1
    card-type iom-sar
    mda 1
      mda-type i16-chds1
    exit
    mda 2
      mda-type i8-eth
    exit
  exit
#-----
echo "Port Configuration"
#-----
  port 1/1/1
    shutdown
    tdm
    exit
  exit
  port 1/1/2
    shutdown
    tdm
    exit
  exit
  port 1/1/3
    shutdown
    tdm
    exit
  exit
  port 1/1/4
    shutdown
    tdm
    exit

```

```
exit
port 1/1/5
  shutdown
  tdm
  exit
exit
port 1/1/6
  shutdown
  tdm
  exit
exit
port 1/1/7
  shutdown
  tdm
  exit
exit
port 1/1/8
  shutdown
  tdm
  exit
exit
port 1/1/9
  shutdown
  tdm
  exit
exit
port 1/1/10
  shutdown
  tdm
  exit
exit
port 1/1/11
  shutdown
  tdm
  exit
exit
port 1/1/12
  shutdown
  tdm
  exit
exit
port 1/1/13
  shutdown
  tdm
  exit
exit
port 1/1/14
  shutdown
  tdm
  exit
exit
port 1/1/15
  shutdown
  tdm
  exit
exit
port 1/1/16
  shutdown
  tdm
  exit
exit
port 1/2/1
  ethernet
    encap-type dot1q
  exit
  no shutdown
exit
port 1/2/2
```

```
        ethernet
            encap-type dot1q
        exit
        no shutdown
    exit
    port 1/2/3
        shutdown
        ethernet
        exit
    exit
    port 1/2/4
        ethernet
        exit
        no shutdown
    exit
    port 1/2/5
        ethernet
            mode network
            mtu 2100
        exit
        no shutdown
    exit
    port 1/2/6
        ethernet
            mode network
            mtu 2100
        exit
        no shutdown
    exit
    port 1/2/7
        description "toSR7-1"
        ethernet
            encap-type dot1q
        exit
        no shutdown
    exit
    port 1/2/8
        description "toSR7-2"
        ethernet
            encap-type dot1q
        exit
        no shutdown
    exit
#-----
echo "External Alarm Configuration"
#-----
        external-alarms
        exit
#-----
echo "Management Router Configuration"
#-----
        router management
        exit
#-----
echo "Router (Network Side) Configuration"
#-----
        router
            interface "system"
                address 192.168.0.1/32
            exit
            interface "toSARF-2"
                address 10.1.2.1/24
                port 1/2/5
            exit
            interface "toSARF-6"
                address 10.1.6.1/24
                port 1/2/6
```

```

        exit
#-----
echo "OSPFv2 Configuration"
#-----
    ospf
        area 0.0.0.0
            interface "system"
                exit
            interface "toSARF-2"
                interface-type point-to-point
                hello-interval 1
                dead-interval 3
                metric 100
            exit
            interface "toSARF-6"
                interface-type point-to-point
                hello-interval 1
                dead-interval 3
                metric 100
            exit
        exit
    exit
#-----
echo "MPLS Configuration"
#-----
    mpls
        interface "system"
            exit
    exit
#-----
echo "RSVP Configuration"
#-----
    rsvp
        shutdown
        interface "system"
            exit
    exit
#-----
echo "MPLS LSP Configuration"
#-----
    mpls
        exit
#-----
echo "LDP Configuration"
#-----
    ldp
        interface-parameters
            interface "toSARF-2"
                exit
            interface "toSARF-6"
                exit
        exit
        targeted-session
        exit
    exit
    exit
#-----
echo "Service Configuration"
#-----
    service
        customer 1 create
            description "Default customer"
        exit
        sdp 2 create
            far-end 192.168.0.2
            ldp
            keep-alive

```

```
        shutdown
    exit
    no shutdown
exit
sdp 3 create
    far-end 192.168.0.3
    ldp
    keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 4 create
    far-end 192.168.0.4
    ldp
    keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 5 create
    far-end 192.168.0.5
    ldp
    keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 6 create
    far-end 192.168.0.6
    ldp
    keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 11 create
    far-end 192.168.0.11
    ldp
    keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 12 create
    far-end 192.168.0.12
    ldp
    keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 13 create
    far-end 192.168.0.13
    ldp
    keep-alive
        shutdown
    exit
    no shutdown
exit
vprn 1000 customer 1 create
    interface "toSR71(ESD)" create
    exit
exit
vpls 10 customer 1 create
    stp
        shutdown
    exit
```

```

        sap 1/2/4 create
        exit
        sap 1/2/8:10 create
        exit
        mesh-sdp 2:10 create
        exit
        mesh-sdp 3:10 create
        exit
        mesh-sdp 4:10 create
        exit
        mesh-sdp 5:10 create
        exit
        mesh-sdp 6:10 create
        exit
        mesh-sdp 11:10 create
        exit
        mesh-sdp 12:10 create
        exit
        mesh-sdp 13:10 create
        exit
        no shutdown
    exit
    vprn 1000 customer 1 create
        route-distinguisher 1:1
        interface "toSR71(ESD)" create
            address 10.10.10.11/24
            sap 1/2/7:10 create
            exit
        exit
        no shutdown
    exit
exit
exit
#-----
echo "Router (Service Side) Configuration"
#-----
    router
#-----
echo "OSPFv2 Configuration"
#-----
    ospf
    exit
    exit
#-----
echo "System Sync-If-Timing Configuration"
#-----
    system
        sync-if-timing
            begin
                ref-order external ref1 ref2
                ref1
                    shutdown
            exit
            ref2
                shutdown
            exit
        external
            input-interface
                shutdown
            exit
        exit
        commit
    exit
exit
#-----
echo "System Time Configuration"
#-----
    system

```

```

        time
        exit
    exit
#-----
echo "OAM Tests Configuration"
#-----
    test-oam
        twamp
            server
            shutdown
        exit
    exit
exit
exit all

```

8.2.2. Router SARF-5(ISCAL)

```

A:SARF-5(ISCAL)# admin display-config
#-----
echo "System Configuration"
#-----
    system
        name "SARF-5(ISCAL)"
        snmp
            shutdown
        exit
        time
            sntp
            shutdown
        exit
        zone UTC
    exit
    thresholds
        rmon
        exit
    exit
exit
#-----
echo "System Security Configuration"
#-----
    system
    exit
#-----
echo "Log Configuration"
#-----
    log
    exit
#-----
echo "System Security Cpm Hw Filters Configuration"
#-----
    system
        security
        exit
    exit
#-----
echo "VLAN-Filter Configuration"
#-----
    filter
    exit
#-----
echo "QoS Policy Configuration"
#-----
    qos
    exit
#-----

```

```
echo "Card Configuration"
```

```
#-----  
card 1  
  card-type iom-sar  
  mda 1  
    mda-type i16-chdsl  
  exit  
  mda 2  
    mda-type i8-eth  
  exit  
exit
```

```
echo "Port Configuration"
```

```
#-----  
port 1/1/1  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/2  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/3  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/4  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/5  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/6  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/7  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/8  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/9  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/10  
  shutdown  
  tdm  
  exit  
exit  
port 1/1/11  
  shutdown  
  tdm  
  exit
```

```
exit
port 1/1/12
  shutdown
  tdm
  exit
exit
port 1/1/13
  shutdown
  tdm
  exit
exit
port 1/1/14
  shutdown
  tdm
  exit
exit
port 1/1/15
  shutdown
  tdm
  exit
exit
port 1/1/16
  shutdown
  tdm
  exit
exit
port 1/2/1
  ethernet
    encaps-type dot1q
  exit
  no shutdown
exit
port 1/2/2
  ethernet
    encaps-type dot1q
  exit
  no shutdown
exit
port 1/2/3
  shutdown
  ethernet
  exit
exit
port 1/2/4
  ethernet
  exit
  no shutdown
exit
port 1/2/5
  ethernet
    mode network
    mtu 2100
  exit
  no shutdown
exit
port 1/2/6
  ethernet
    mode network
    mtu 2100
  exit
  no shutdown
exit
port 1/2/7
  ethernet
    encaps-type dot1q
  exit
  no shutdown
exit
```

```

port 1/2/8
    description "toSR7-1"
    ethernet
        mode network
        mtu 2100
    exit
    no shutdown
exit
#-----
echo "External Alarm Configuration"
#-----
    external-alarms
    exit
#-----
echo "Management Router Configuration"
#-----
    router management
    exit
#-----
echo "Router (Network Side) Configuration"
#-----
    router
        interface "system"
            address 192.168.0.5/32
        exit
        interface "toSARF-4"
            address 10.4.5.5/24
            port 1/2/6
        exit
        interface "toSARF-6"
            address 10.5.6.5/24
            port 1/2/5
        exit
        interface "toSR7-1"
            address 10.5.11.5/24
            port 1/2/8
        exit
#-----
echo "OSPFv2 Configuration"
#-----
    ospf
        area 0.0.0.0
            interface "system"
                exit
            interface "toSARF-4"
                interface-type point-to-point
                hello-interval 1
                dead-interval 3
                metric 100
            exit
            interface "toSARF-6"
                interface-type point-to-point
                hello-interval 1
                dead-interval 3
                metric 100
            exit
            interface "toSR7-1"
                interface-type point-to-point
                hello-interval 1
                dead-interval 3
                metric 100
            exit
        exit
    exit
#-----
echo "LDP Configuration"
#-----

```

```
    ldp
      interface-parameters
        interface "toSARF-4"
        exit
        interface "toSARF-6"
        exit
        interface "toSR7-1"
        exit
      exit
      targeted-session
      exit
    exit
  exit
exit

#-----
echo "Service Configuration"
#-----

service
  customer 1 create
    description "Default customer"
  exit
  sdp 1 create
    far-end 192.168.0.1
    ldp
    keep-alive
    shutdown
  exit
  no shutdown
exit
sdp 2 create
  far-end 192.168.0.2
  ldp
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 3 create
  far-end 192.168.0.3
  ldp
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 4 create
  far-end 192.168.0.4
  ldp
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 6 create
  far-end 192.168.0.6
  ldp
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 11 create
  far-end 192.168.0.11
  ldp
  keep-alive
  shutdown
  exit
  no shutdown
```

```

exit
sdp 12 create
  far-end 192.168.0.12
  ldp
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 13 create
  far-end 192.168.0.13
  ldp
  keep-alive
  shutdown
  exit
  no shutdown
exit
vpls 10 customer 1 create
  stp
  shutdown
  exit
  sap 1/2/4 create
  exit
  sap 1/2/7:10 create
  exit
  mesh-sdp 1:10 create
  exit
  mesh-sdp 2:10 create
  exit
  mesh-sdp 3:10 create
  exit
  mesh-sdp 4:10 create
  exit
  mesh-sdp 6:10 create
  exit
  mesh-sdp 11:10 create
  exit
  mesh-sdp 12:10 create
  exit
  mesh-sdp 13:10 create
  exit
  no shutdown
  exit
exit
#-----
echo "Router (Service Side) Configuration"
#-----
  router
#-----
echo "OSPFv2 Configuration"
#-----
  ospf
  exit
  exit
#-----
echo "System Sync-If-Timing Configuration"
#-----
  system
  sync-if-timing
  begin
  ref-order external ref1 ref2
  ref1
  shutdown
  exit
  ref2
  shutdown
  exit

```

```

        external
            input-interface
                shutdown
            exit
        exit
        commit
    exit
exit
#-----
echo "System Time Configuration"
#-----
    system
        time
        exit
    exit
#-----
echo "OAM Tests Configuration"
#-----
    test-oam
        twamp
            server
                shutdown
            exit
        exit
    exit
exit all

```

8.3. Configuração balanceamento dinâmico dos *routers* PE utilizados nos testes

8.3.1. Router SARF-1(CORE)

```

A:SARF-1(CORE)# admin display-config
#-----
echo "System Configuration"
#-----
    system
        name "SARF-1(CORE) "
        snmp
            shutdown
        exit
        time
            snmp
                shutdown
            exit
        zone UTC
        exit
        thresholds
            rmon
            exit
        exit
    exit
#-----
echo "System Security Configuration"
#-----
    system
        security
            ftp-server
            user "admin"
                password ".wwBSCf55BeJQsICA8BrJ." hash2
                access console ftp
            console
                member "administrative"
            exit
    exit

```

```
        exit
    exit
#-----
echo "Log Configuration"
#-----
    log
    exit
#-----
echo "System Security Cpm Hw Filters Configuration"
#-----
    system
        security
        exit
    exit
#-----
echo "VLAN-Filter Configuration"
#-----
    filter
    exit
#-----
echo "QoS Policy Configuration"
#-----
    qos
    exit
#-----
echo "Card Configuration"
#-----
    card 1
        card-type iom-sar
        mda 1
            mda-type i16-chds1
        exit
        mda 2
            mda-type i8-eth
        exit
    exit
#-----
echo "Port Configuration"
#-----
    port 1/1/1
        shutdown
        tdm
        exit
    exit
    port 1/1/2
        shutdown
        tdm
        exit
    exit
    port 1/1/3
        shutdown
        tdm
        exit
    exit
    port 1/1/4
        shutdown
        tdm
        exit
    exit
    port 1/1/5
        shutdown
        tdm
        exit
    exit
    port 1/1/6
        shutdown
        tdm
        exit
```

```
exit
port 1/1/7
  shutdown
  tdm
  exit
exit
port 1/1/8
  shutdown
  tdm
  exit
exit
port 1/1/9
  shutdown
  tdm
  exit
exit
port 1/1/10
  shutdown
  tdm
  exit
exit
port 1/1/11
  shutdown
  tdm
  exit
exit
port 1/1/12
  shutdown
  tdm
  exit
exit
port 1/1/13
  shutdown
  tdm
  exit
exit
port 1/1/14
  shutdown
  tdm
  exit
exit
port 1/1/15
  shutdown
  tdm
  exit
exit
port 1/1/16
  shutdown
  tdm
  exit
exit
port 1/2/1
  ethernet
    encap-type dot1q
  exit
  no shutdown
exit
port 1/2/2
  ethernet
    encap-type dot1q
  exit
  no shutdown
exit
port 1/2/3
  shutdown
  ethernet
  exit
exit
```

```
port 1/2/4
    ethernet
    exit
    no shutdown
exit
port 1/2/5
    ethernet
        mode network
        mtu 2100
    exit
    no shutdown
exit
port 1/2/6
    ethernet
        mode network
        mtu 2100
    exit
    no shutdown
exit
port 1/2/7
    description "toSR7-1"
    ethernet
        encap-type dot1q
    exit
    no shutdown
exit
port 1/2/8
    description "toSR7-2"
    ethernet
        encap-type dot1q
    exit
    no shutdown
exit

#-----
echo "External Alarm Configuration"
#-----
    external-alarms
    exit

#-----
echo "Management Router Configuration"
#-----
    router management
    exit

#-----
echo "Router (Network Side) Configuration"
#-----
    router
        interface "system"
            address 192.168.0.1/32
        exit
        interface "toSARF-2"
            address 10.1.2.1/24
            port 1/2/5
        exit
        interface "toSARF-6"
            address 10.1.6.1/24
            port 1/2/6
        exit

#-----
echo "OSPFv2 Configuration"
#-----
    ospf
        traffic-engineering
        area 0.0.0.0
            interface "system"
                exit
            interface "toSARF-2"
```

```

        interface-type point-to-point
        hello-interval 1
        dead-interval 3
        metric 100
    exit
    interface "toSARF-6"
        interface-type point-to-point
        hello-interval 1
        dead-interval 3
        metric 100
    exit
exit
exit
exit
#-----
echo "MPLS Configuration"
#-----
    mpls
        interface "system"
        exit
        interface "toSARF-2"
        exit
        interface "toSARF-6"
        exit
    exit
#-----
echo "RSVP Configuration"
#-----
    rsvp
        interface "system"
        exit
        interface "toSARF-2"
        exit
        interface "toSARF-6"
        exit
        no shutdown
    exit
#-----
echo "MPLS LSP Configuration"
#-----
    mpls
        path "Loose"
        no shutdown
        exit
        lsp "toSARF2(ESTeSL)"
        to 192.168.0.2
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
        bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSARF3(COB)"
    to 192.168.0.3
    cspf
    fast-reroute facility
    exit
    least-fill
    primary "Loose"
    bandwidth 10
    exit
    no shutdown
    exit
    lsp "toSARF4(SP)"
    to 192.168.0.4
    cspf

```

```
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSARF5 (ISCAL)"
        to 192.168.0.5
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSARF6 (ISEL)"
        to 192.168.0.6
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSR71 (ESD)"
        to 192.168.0.11
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSR72 (ESML)"
        to 192.168.0.12
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSR73 (ESTC)"
        to 192.168.0.13
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    no shutdown
exit
#-----
echo "LDP Configuration"
#-----
```

```
        ldp
        interface-parameters
        exit
        targeted-session
        exit
    exit
exit

#-----
echo "Service Configuration"
#-----

service
    customer 1 create
        description "Default customer"
    exit
    sdp 2 create
        far-end 192.168.0.2
        lsp "toSARF2(ESTeSL)"
        keep-alive
        shutdown
    exit
    no shutdown
exit
    sdp 3 create
        far-end 192.168.0.3
        lsp "toSARF3(COB)"
        keep-alive
        shutdown
    exit
    no shutdown
exit
    sdp 4 create
        far-end 192.168.0.4
        lsp "toSARF4(SP)"
        keep-alive
        shutdown
    exit
    no shutdown
exit
    sdp 5 create
        far-end 192.168.0.5
        lsp "toSARF5(ISCAL)"
        keep-alive
        shutdown
    exit
    no shutdown
exit
    sdp 6 create
        far-end 192.168.0.6
        lsp "toSARF6(ISEL)"
        keep-alive
        shutdown
    exit
    no shutdown
exit
    sdp 11 create
        far-end 192.168.0.11
        lsp "toSR71(ESD)"
        keep-alive
        shutdown
    exit
    no shutdown
exit
    sdp 12 create
        far-end 192.168.0.12
        lsp "toSR72(ESML)"
        keep-alive
        shutdown
```

```

        exit
        no shutdown
    exit
    sdp 13 create
        far-end 192.168.0.13
        lsp "toSR73(ESTC)"
        keep-alive
        shutdown
    exit
    no shutdown
exit
vprn 1000 customer 1 create
    interface "toSR71" create
    exit
exit
vpls 10 customer 1 create
    stp
        shutdown
    exit
    sap 1/2/4 create
    exit
    sap 1/2/8:10 create
    exit
    mesh-sdp 2:10 create
    exit
    mesh-sdp 3:10 create
    exit
    mesh-sdp 4:10 create
    exit
    mesh-sdp 5:10 create
    exit
    mesh-sdp 6:10 create
    exit
    mesh-sdp 11:10 create
    exit
    mesh-sdp 12:10 create
    exit
    mesh-sdp 13:10 create
    exit
    no shutdown
exit
vprn 1000 customer 1 create
    route-distinguisher 1:1
    interface "toSR71" create
        address 10.10.10.11/24
        sap 1/2/7:10 create
    exit
    exit
    no shutdown
exit
exit
#-----
echo "Router (Service Side) Configuration"
#-----
    router
#-----
echo "OSPFv2 Configuration"
#-----
    ospf
    exit
exit
#-----
echo "System Sync-If-Timing Configuration"
#-----
    system
        sync-if-timing
        begin

```

```

        ref-order external ref1 ref2
        ref1
            shutdown
        exit
        ref2
            shutdown
        exit
        external
            input-interface
                shutdown
            exit
        exit
        commit
    exit
exit
-----
echo "System Time Configuration"
-----
    system
        time
        exit
    exit
-----
echo "OAM Tests Configuration"
-----
    test-oam
        twamp
            server
                shutdown
            exit
        exit
    exit
exit all

```

8.3.2. Router SARF-5(ISCAL)

```

A:SARF-5(ISCAL)# admin display-config
-----
echo "System Configuration"
-----
    system
        name "SARF-5(ISCAL)"
        snmp
            shutdown
        exit
        time
            snmp
                shutdown
            exit
        zone UTC
        exit
        thresholds
            rmon
            exit
        exit
    exit
-----
echo "System Security Configuration"
-----
    system
    exit
-----
echo "Log Configuration"
-----
    log
    exit

```

```
#-----  
echo "System Security Cpm Hw Filters Configuration"  
#-----  
    system  
        security  
        exit  
    exit  
#-----  
echo "VLAN-Filter Configuration"  
#-----  
    filter  
    exit  
#-----  
echo "QoS Policy Configuration"  
#-----  
    qos  
    exit  
#-----  
echo "Card Configuration"  
#-----  
    card 1  
        card-type iom-sar  
        mda 1  
            mda-type i16-chdsl  
        exit  
        mda 2  
            mda-type i8-eth  
        exit  
    exit  
#-----  
echo "Port Configuration"  
#-----  
    port 1/1/1  
        shutdown  
        tdm  
        exit  
    exit  
    port 1/1/2  
        shutdown  
        tdm  
        exit  
    exit  
    port 1/1/3  
        shutdown  
        tdm  
        exit  
    exit  
    port 1/1/4  
        shutdown  
        tdm  
        exit  
    exit  
    port 1/1/5  
        shutdown  
        tdm  
        exit  
    exit  
    port 1/1/6  
        shutdown  
        tdm  
        exit  
    exit  
    port 1/1/7  
        shutdown  
        tdm  
        exit  
    exit  
    port 1/1/8
```

```
        shutdown
        tdm
        exit
    exit
    port 1/1/9
        shutdown
        tdm
        exit
    exit
    port 1/1/10
        shutdown
        tdm
        exit
    exit
    port 1/1/11
        shutdown
        tdm
        exit
    exit
    port 1/1/12
        shutdown
        tdm
        exit
    exit
    port 1/1/13
        shutdown
        tdm
        exit
    exit
    port 1/1/14
        shutdown
        tdm
        exit
    exit
    port 1/1/15
        shutdown
        tdm
        exit
    exit
    port 1/1/16
        shutdown
        tdm
        exit
    exit
    port 1/2/1
        ethernet
            encap-type dot1q
        exit
        no shutdown
    exit
    port 1/2/2
        ethernet
            encap-type dot1q
        exit
        no shutdown
    exit
    port 1/2/3
        shutdown
        ethernet
        exit
    exit
    port 1/2/4
        ethernet
        exit
        no shutdown
    exit
    port 1/2/5
        ethernet
```

```

        mode network
        mtu 2100
    exit
    no shutdown
exit
port 1/2/6
    ethernet
        mode network
        mtu 2100
    exit
    no shutdown
exit
port 1/2/7
    ethernet
        encap-type dot1q
    exit
    no shutdown
exit
port 1/2/8
    description "toSR7-1"
    ethernet
        mode network
        mtu 2100
    exit
    no shutdown
exit
#-----
echo "External Alarm Configuration"
#-----
    external-alarms
    exit
#-----
echo "Management Router Configuration"
#-----
    router management
    exit
#-----
echo "Router (Network Side) Configuration"
#-----
    router
        interface "system"
            address 192.168.0.5/32
        exit
        interface "toSARF-4"
            address 10.4.5.5/24
            port 1/2/6
        exit
        interface "toSARF-6"
            address 10.5.6.5/24
            port 1/2/5
        exit
        interface "toSR7-1"
            address 10.5.11.5/24
            port 1/2/8
        exit
#-----
echo "OSPFv2 Configuration"
#-----
    ospf
        traffic-engineering
        area 0.0.0.0
            interface "system"
                exit
            interface "toSARF-4"
                interface-type point-to-point
                hello-interval 1
                dead-interval 3

```

```

        metric 100
    exit
    interface "toSARF-6"
        interface-type point-to-point
        hello-interval 1
        dead-interval 3
        metric 100
    exit
    interface "toSR7-1"
        interface-type point-to-point
        hello-interval 1
        dead-interval 3
        metric 100
    exit
exit
exit
#-----
echo "MPLS Configuration"
#-----
    mpls
        interface "system"
        exit
        interface "toSARF-4"
        exit
        interface "toSARF-6"
        exit
        interface "toSR7-1"
        exit
    exit
#-----
echo "RSVP Configuration"
#-----
    rsvp
        interface "system"
        exit
        interface "toSARF-4"
        exit
        interface "toSARF-6"
        exit
        interface "toSR7-1"
            subscription 10
        exit
        no shutdown
    exit
#-----
echo "MPLS LSP Configuration"
#-----
    mpls
        path "Loose"
            no shutdown
        exit
        lsp "toSARF1(CORE) "
            to 192.168.0.1
            cspf
            fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSARF2(ESTeSL) "
        to 192.168.0.2
        cspf
        fast-reroute facility
        exit
        least-fill

```

```
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSARF3(COB)"
        to 192.168.0.3
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSARF4(SP)"
        to 192.168.0.4
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSARF6(ISEL)"
        to 192.168.0.6
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSR71(ESD)"
        to 192.168.0.11
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSR72(ESML)"
        to 192.168.0.12
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
        exit
        no shutdown
    exit
    lsp "toSR73(ESTC)"
        to 192.168.0.13
        cspf
        fast-reroute facility
        exit
        least-fill
        primary "Loose"
            bandwidth 10
```

```

        exit
        no shutdown
    exit
    no shutdown
exit
#-----
echo "LDP Configuration"
#-----
    ldp
        interface-parameters
        exit
        targeted-session
        exit
    exit
exit
#-----
echo "Service Configuration"
#-----
service
    customer 1 create
        description "Default customer"
    exit
    sdp 1 create
        far-end 192.168.0.1
        lsp "toSARF1(CORE)"
        keep-alive
            shutdown
        exit
        no shutdown
    exit
    sdp 2 create
        far-end 192.168.0.2
        lsp "toSARF2(ESTeSL)"
        keep-alive
            shutdown
        exit
        no shutdown
    exit
    sdp 3 create
        far-end 192.168.0.3
        lsp "toSARF3(COB)"
        keep-alive
            shutdown
        exit
        no shutdown
    exit
    sdp 4 create
        far-end 192.168.0.4
        lsp "toSARF4(SP)"
        keep-alive
            shutdown
        exit
        no shutdown
    exit
    sdp 6 create
        far-end 192.168.0.6
        lsp "toSARF6(ISEL)"
        keep-alive
            shutdown
        exit
        no shutdown
    exit
    sdp 11 create
        far-end 192.168.0.11
        lsp "toSR71(ESD)"
        keep-alive
            shutdown

```

```

        exit
        no shutdown
    exit
    sdp 12 create
        far-end 192.168.0.12
        lsp "toSR72(ESML)"
        keep-alive
        shutdown
    exit
    no shutdown
    exit
    sdp 13 create
        far-end 192.168.0.13
        lsp "toSR73(ESTC)"
        keep-alive
        shutdown
    exit
    no shutdown
    exit
    vpls 10 customer 1 create
        stp
            shutdown
        exit
        sap 1/2/4 create
        exit
        sap 1/2/7:10 create
        exit
        mesh-sdp 1:10 create
        exit
        mesh-sdp 2:10 create
        exit
        mesh-sdp 3:10 create
        exit
        mesh-sdp 4:10 create
        exit
        mesh-sdp 6:10 create
        exit
        mesh-sdp 11:10 create
        exit
        mesh-sdp 12:10 create
        exit
        mesh-sdp 13:10 create
        exit
        no shutdown
    exit
    exit
#-----
echo "Router (Service Side) Configuration"
#-----
    router
#-----
echo "OSPFv2 Configuration"
#-----
    ospf
    exit
    exit
#-----
echo "System Sync-If-Timing Configuration"
#-----
    system
        sync-if-timing
            begin
                ref-order external ref1 ref2
                ref1
                shutdown
            exit
            ref2

```

```

        shutdown
        exit
    external
        input-interface
            shutdown
        exit
    exit
    commit
    exit
    exit
#-----
echo "System Time Configuration"
#-----
    system
        time
        exit
    exit
#-----
echo "OAM Tests Configuration"
#-----
    test-oam
        twamp
            server
                shutdown
            exit
        exit
    exit
    exit
exit all

```

8.4. Configuração balanceamento “manual” dos *routers* PE utilizados nos testes

8.4.1. Router SARF-1(CORE)

```

A:SARF-1(CORE)# admin display-config
#-----
echo "System Configuration"
#-----
    system
        name "SARF-1 (CORE) "
        snmp
            shutdown
        exit
        time
            snmp
                shutdown
            exit
            zone UTC
        exit
        thresholds
            rmon
            exit
        exit
    exit
#-----
echo "System Security Configuration"
#-----
    system
        security
            ftp-server
                user "admin"
                password ".wwBSCf55BeJQsICA8BrJ." hash2
            access console ftp
            console
                member "administrative"

```

```
        exit
    exit
exit
#-----
echo "Log Configuration"
#-----
    log
    exit
#-----
echo "System Security Cpm Hw Filters Configuration"
#-----
    system
        security
        exit
    exit
#-----
echo "VLAN-Filter Configuration"
#-----
    filter
    exit
#-----
echo "QoS Policy Configuration"
#-----
    qos
    exit
#-----
echo "Card Configuration"
#-----
    card 1
        card-type iom-sar
        mda 1
            mda-type i16-chds1
        exit
        mda 2
            mda-type i8-eth
        exit
    exit
#-----
echo "Port Configuration"
#-----
    port 1/1/1
        shutdown
        tdm
        exit
    exit
    port 1/1/2
        shutdown
        tdm
        exit
    exit
    port 1/1/3
        shutdown
        tdm
        exit
    exit
    port 1/1/4
        shutdown
        tdm
        exit
    exit
    port 1/1/5
        shutdown
        tdm
        exit
    exit
    port 1/1/6
        shutdown
```

```
        tdm
        exit
    exit
    port 1/1/7
        shutdown
        tdm
        exit
    exit
    port 1/1/8
        shutdown
        tdm
        exit
    exit
    port 1/1/9
        shutdown
        tdm
        exit
    exit
    port 1/1/10
        shutdown
        tdm
        exit
    exit
    port 1/1/11
        shutdown
        tdm
        exit
    exit
    port 1/1/12
        shutdown
        tdm
        exit
    exit
    port 1/1/13
        shutdown
        tdm
        exit
    exit
    port 1/1/14
        shutdown
        tdm
        exit
    exit
    port 1/1/15
        shutdown
        tdm
        exit
    exit
    port 1/1/16
        shutdown
        tdm
        exit
    exit
    port 1/2/1
        ethernet
            encap-type dot1q
        exit
        no shutdown
    exit
    port 1/2/2
        ethernet
            encap-type dot1q
        exit
        no shutdown
    exit
    port 1/2/3
        shutdown
        ethernet
```

```

    exit
  exit
  port 1/2/4
    ethernet
    exit
    no shutdown
  exit
  port 1/2/5
    ethernet
      mode network
      mtu 2100
    exit
    no shutdown
  exit
  port 1/2/6
    ethernet
      mode network
      mtu 2100
    exit
    no shutdown
  exit
  port 1/2/7
    description "toSR7-1"
    ethernet
      encap-type dot1q
    exit
    no shutdown
  exit
  port 1/2/8
    description "toSR7-2"
    ethernet
      encap-type dot1q
    exit
    no shutdown
  exit
#-----
echo "External Alarm Configuration"
#-----
  external-alarms
  exit
#-----
echo "Management Router Configuration"
#-----
  router management
  exit
#-----
echo "Router (Network Side) Configuration"
#-----
  router
    interface "system"
      address 192.168.0.1/32
    exit
    interface "toSARF-2"
      address 10.1.2.1/24
      port 1/2/5
    exit
    interface "toSARF-6"
      address 10.1.6.1/24
      port 1/2/6
    exit
#-----
echo "OSPFv2 Configuration"
#-----
  ospf
    traffic-engineering
    area 0.0.0.0
      interface "system"

```

```

        exit
        interface "toSARF-2"
            interface-type point-to-point
            hello-interval 1
            dead-interval 3
            metric 100
        exit
        interface "toSARF-6"
            interface-type point-to-point
            hello-interval 1
            dead-interval 3
            metric 100
        exit
    exit
exit
exit
#-----
echo "MPLS Configuration"
#-----
    mpls
        admin-group "AMARELO" 4
        admin-group "AZUL" 3
        admin-group "ROSA" 5
        admin-group "VERDE" 1
        admin-group "VERMELHO" 2
        interface "system"
        exit
        interface "toSARF-2"
            admin-group "AZUL"
        exit
        interface "toSARF-6"
            admin-group "AMARELO"
        exit
    exit
#-----
echo "RSVP Configuration"
#-----
    rsvp
        interface "system"
        exit
        interface "toSARF-2"
        exit
        interface "toSARF-6"
        exit
        no shutdown
    exit
#-----
echo "MPLS LSP Configuration"
#-----
    mpls
        path "Loose"
            no shutdown
        exit
        path "LooseALT"
            no shutdown
        exit
        lsp "toSARF2 (ESTeSL) "
            to 192.168.0.2
            cspf
            primary "Loose"
                include "AZUL"
            exit
            secondary "LooseALT"
                standby
                exclude "AZUL"
            exit
            no shutdown
        exit
        lsp "toSARF3 (COB) "

```

```
to 192.168.0.3
  cspf
  primary "Loose"
    include "AZUL"
    include "VERDE"
  exit
  secondary "LooseALT"
    standby
    exclude "AZUL"
  exit
  no shutdown
exit
lsp "toSARF4 (SP) "
to 192.168.0.4
  cspf
  primary "Loose"
    include "AMARELO"
    include "VERMELHO"
  exit
  secondary "LooseALT"
    standby
    exclude "AMARELO"
  exit
  no shutdown
exit
lsp "toSARF5 (ISCAL) "
to 192.168.0.5
  cspf
  primary "Loose"
    include "AMARELO"
    include "VERMELHO"
  exit
  secondary "LooseALT"
    standby
    exclude "AMARELO"
  exit
  no shutdown
exit
lsp "toSARF6 (ISEL) "
to 192.168.0.6
  cspf
  primary "Loose"
    include "AMARELO"
  exit
  secondary "LooseALT"
    standby
    exclude "AMARELO"
  exit
  no shutdown
exit
lsp "toSR71 (ESD) "
to 192.168.0.11
  cspf
  primary "Loose"
    include "AZUL"
    include "VERDE"
  exit
  secondary "LooseALT"
    standby
    exclude "AZUL"
  exit
  no shutdown
exit
lsp "toSR72 (ESML) "
to 192.168.0.12
  cspf
  primary "Loose"
    include "AZUL"
```

```

        include "VERDE"
        exit
        secondary "LooseALT"
            standby
            exclude "AZUL"
        exit
        no shutdown
    exit
    lsp "toSR73(ESTC)"
        to 192.168.0.13
        cspf
        primary "Loose"
            include "AMARELO"
            include "VERMELHO"
        exit
        secondary "LooseALT"
            standby
            exclude "AMARELO"
        exit
        no shutdown
    exit
    no shutdown
exit
#-----
echo "LDP Configuration"
#-----
    ldp
        interface-parameters
        exit
        targeted-session
        exit
    exit
exit
#-----
echo "Service Configuration"
#-----
    service
        customer 1 create
            description "Default customer"
        exit
        sdp 2 create
            far-end 192.168.0.2
            lsp "toSARF2(ESTeSL)"
            keep-alive
            shutdown
        exit
        no shutdown
    exit
    sdp 3 create
        far-end 192.168.0.3
        lsp "toSARF3(COB)"
        keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 4 create
    far-end 192.168.0.4
    lsp "toSARF4(SP)"
    keep-alive
    shutdown
exit
no shutdown
exit
sdp 5 create
    far-end 192.168.0.5
    lsp "toSARF5(ISCAL)"

```

```
        keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 6 create
    far-end 192.168.0.6
    lsp "toSARF6(ISEL)"
    keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 11 create
    far-end 192.168.0.11
    lsp "toSR71(ESD)"
    keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 12 create
    far-end 192.168.0.12
    lsp "toSR72(ESML)"
    keep-alive
        shutdown
    exit
    no shutdown
exit
sdp 13 create
    far-end 192.168.0.13
    lsp "toSR73(ESTC)"
    keep-alive
        shutdown
    exit
    no shutdown
exit
vprn 1000 customer 1 create
    interface "toSR71(ESD)" create
    exit
exit
vpls 10 customer 1 create
    stp
        shutdown
    exit
    sap 1/2/4 create
    exit
    sap 1/2/8:10 create
    exit
    mesh-sdp 2:10 create
    exit
    mesh-sdp 3:10 create
    exit
    mesh-sdp 4:10 create
    exit
    mesh-sdp 5:10 create
    exit
    mesh-sdp 6:10 create
    exit
    mesh-sdp 11:10 create
    exit
    mesh-sdp 12:10 create
    exit
    mesh-sdp 13:10 create
    exit
    no shutdown
exit
vprn 1000 customer 1 create
```

```

        route-distinguisher 1:1
        interface "toSR71(ESD)" create
            address 10.10.10.11/24
            sap 1/2/7:10 create
            exit
        exit
        no shutdown
    exit
exit
#-----
echo "Router (Service Side) Configuration"
#-----
    router
#-----
echo "OSPFv2 Configuration"
#-----
    ospf
    exit
    exit
#-----
echo "System Sync-If-Timing Configuration"
#-----
    system
        sync-if-timing
        begin
            ref-order external ref1 ref2
            ref1
                shutdown
            exit
            ref2
                shutdown
            exit
        external
            input-interface
                shutdown
            exit
        exit
        commit
    exit
exit
#-----
echo "System Time Configuration"
#-----
    system
        time
        exit
    exit
#-----
echo "OAM Tests Configuration"
#-----
    test-oam
        twamp
            server
                shutdown
            exit
        exit
    exit
exit all

```

8.4.2. Router SARF-5(ISCAL)

```

A:SARF-5(ISCAL)# admin display-config
#-----
echo "System Configuration"
#-----

```

```

system
  name "SARF-5 (ISCAL) "
  snmp
    shutdown
  exit
  time
    sntp
      shutdown
    exit
  zone UTC
  exit
  thresholds
    rmon
  exit
  exit
  exit
#-----
echo "System Security Configuration"
#-----
  system
  exit
#-----
echo "Log Configuration"
#-----
  log
  exit
#-----
echo "System Security Cpm Hw Filters Configuration"
#-----
  system
    security
  exit
  exit
#-----
echo "VLAN-Filter Configuration"
#-----
  filter
  exit
#-----
echo "QoS Policy Configuration"
#-----
  qos
  exit
#-----
echo "Card Configuration"
#-----
  card 1
    card-type iom-sar
    mda 1
      mda-type il6-chdsl
    exit
    mda 2
      mda-type i8-eth
    exit
  exit
#-----
echo "Port Configuration"
#-----
  port 1/1/1
    shutdown
    tdm
  exit
  port 1/1/2
    shutdown
    tdm
  exit
  exit

```

```
port 1/1/3
  shutdown
  tdm
  exit
exit
port 1/1/4
  shutdown
  tdm
  exit
exit
port 1/1/5
  shutdown
  tdm
  exit
exit
port 1/1/6
  shutdown
  tdm
  exit
exit
port 1/1/7
  shutdown
  tdm
  exit
exit
port 1/1/8
  shutdown
  tdm
  exit
exit
port 1/1/9
  shutdown
  tdm
  exit
exit
port 1/1/10
  shutdown
  tdm
  exit
exit
port 1/1/11
  shutdown
  tdm
  exit
exit
port 1/1/12
  shutdown
  tdm
  exit
exit
port 1/1/13
  shutdown
  tdm
  exit
exit
port 1/1/14
  shutdown
  tdm
  exit
exit
port 1/1/15
  shutdown
  tdm
  exit
exit
port 1/1/16
  shutdown
  tdm
```

```
    exit
  exit
  port 1/2/1
    ethernet
      encap-type dot1q
    exit
    no shutdown
  exit
  port 1/2/2
    ethernet
      encap-type dot1q
    exit
    no shutdown
  exit
  port 1/2/3
    shutdown
    ethernet
  exit
  exit
  port 1/2/4
    ethernet
  exit
  no shutdown
  exit
  port 1/2/5
    ethernet
      mode network
      mtu 2100
  exit
  no shutdown
  exit
  port 1/2/6
    ethernet
      mode network
      mtu 2100
  exit
  no shutdown
  exit
  port 1/2/7
    ethernet
      encap-type dot1q
  exit
  no shutdown
  exit
  port 1/2/8
    description "toSR7-1"
    ethernet
      mode network
      mtu 2100
  exit
  no shutdown
  exit

#-----
echo "External Alarm Configuration"
#-----
  external-alarms
  exit

#-----
echo "Management Router Configuration"
#-----
  router management
  exit

#-----
echo "Router (Network Side) Configuration"
#-----
  router
    interface "system"
```

```

        address 192.168.0.5/32
    exit
    interface "toSARF-4"
        address 10.4.5.5/24
        port 1/2/6
    exit
    interface "toSARF-6"
        address 10.5.6.5/24
        port 1/2/5
    exit
    interface "toSR7-1"
        address 10.5.11.5/24
        port 1/2/8
    exit
#-----
echo "OSPFv2 Configuration"
#-----
    ospf
        traffic-engineering
        area 0.0.0.0
            interface "system"
                exit
            interface "toSARF-4"
                interface-type point-to-point
                hello-interval 1
                dead-interval 3
                metric 100
            exit
            interface "toSARF-6"
                interface-type point-to-point
                hello-interval 1
                dead-interval 3
                metric 100
            exit
            interface "toSR7-1"
                interface-type point-to-point
                hello-interval 1
                dead-interval 3
                metric 100
            exit
        exit
    exit
#-----
echo "MPLS Configuration"
#-----
    mpls
        admin-group "AMARELO" 4
        admin-group "AZUL" 3
        admin-group "ROSA" 5
        admin-group "VERDE" 1
        admin-group "VERMELHO" 2
        interface "system"
            exit
        interface "toSARF-4"
            admin-group "VERMELHO"
        exit
        interface "toSARF-6"
            admin-group "VERMELHO"
        exit
        interface "toSR7-1"
            admin-group "ROSA"
        exit
    exit
#-----
echo "RSVP Configuration"
#-----
    rsvp
        interface "system"

```

```
exit
interface "toSARF-4"
exit
interface "toSARF-6"
exit
interface "toSR7-1"
exit
no shutdown
exit
#-----
echo "MPLS LSP Configuration"
#-----
mpls
path "Loose"
no shutdown
exit
path "LooseALT"
no shutdown
exit
lsp "toSARF3 (COB) "
to 192.168.0.3
cspf
primary "Loose"
include "VERMELHO"
exit
secondary "LooseALT"
standby
exclude "VERMELHO"
exit
no shutdown
exit
lsp "toSARF4 (SP) "
to 192.168.0.4
cspf
primary "Loose"
include "VERMELHO"
exit
secondary "LooseALT"
standby
exclude "VERMELHO"
exit
no shutdown
exit
lsp "toSR72 (ESML) "
to 192.168.0.12
cspf
primary "Loose"
exclude "VERMELHO"
exit
secondary "LooseALT"
standby
exclude "ROSA"
exit
no shutdown
exit
lsp "toSR73 (ESTC) "
to 192.168.0.13
cspf
primary "Loose"
include "AMARELO"
include "VERMELHO"
exit
secondary "LooseALT"
standby
exclude "AMARELO"
exit
no shutdown
exit
```

```

lsp "toSARF1 (CORE) "
  to 192.168.0.1
  cspf
  primary "Loose"
    exclude "ROSA"
  exit
  secondary "LooseALT"
    standby
    exclude "AMARELO"
  exit
  no shutdown
exit
lsp "toSARF2 (ESTeSL) "
  to 192.168.0.2
  cspf
  primary "Loose"
    exclude "VERMELHO"
  exit
  secondary "LooseALT"
    standby
    exclude "ROSA"
    exclude "VERDE"
  exit
  no shutdown
exit
lsp "toSARF6 (ISEL) "
  to 192.168.0.6
  cspf
  primary "Loose"
    include "VERMELHO"
  exit
  secondary "LooseALT"
    standby
    exclude "VERMELHO"
  exit
  no shutdown
exit
lsp "toSR71 (ESD) "
  to 192.168.0.11
  cspf
  primary "Loose"
    include "ROSA"
  exit
  secondary "LooseALT"
    standby
    exclude "ROSA"
  exit
  no shutdown
exit
no shutdown
exit
#-----
echo "LDP Configuration"
#-----
  ldp
    interface-parameters
    exit
    targeted-session
    exit
  exit
exit
#-----
echo "Service Configuration"
#-----
  service
    customer 1 create
    description "Default customer"

```

```
exit
sdp 1 create
  far-end 192.168.0.1
  lsp "toSARF1(CORE)"
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 2 create
  far-end 192.168.0.2
  lsp "toSARF2(ESTeSL)"
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 3 create
  far-end 192.168.0.3
  lsp "toSARF3(COB)"
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 4 create
  far-end 192.168.0.4
  lsp "toSARF4(SP)"
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 6 create
  far-end 192.168.0.6
  lsp "toSARF6(ISEL)"
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 11 create
  far-end 192.168.0.11
  lsp "toSR71(ESD)"
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 12 create
  far-end 192.168.0.12
  lsp "toSR72(ESML)"
  keep-alive
  shutdown
  exit
  no shutdown
exit
sdp 13 create
  far-end 192.168.0.13
  lsp "toSR73(ESTC)"
  keep-alive
  shutdown
  exit
  no shutdown
exit
vpls 10 customer 1 create
  stp
  shutdown
```

```

        exit
        sap 1/2/4 create
        exit
        sap 1/2/7:10 create
        exit
        mesh-sdp 1:10 create
        exit
        mesh-sdp 2:10 create
        exit
        mesh-sdp 3:10 create
        exit
        mesh-sdp 4:10 create
        exit
        mesh-sdp 6:10 create
        exit
        mesh-sdp 11:10 create
        exit
        mesh-sdp 12:10 create
        exit
        mesh-sdp 13:10 create
        exit
        no shutdown
    exit
exit
#-----
echo "Router (Service Side) Configuration"
#-----
    router
#-----
echo "OSPFv2 Configuration"
#-----
    ospf
    exit
    exit
#-----
echo "System Sync-If-Timing Configuration"
#-----
    system
        sync-if-timing
            begin
            ref-order external ref1 ref2
            ref1
                shutdown
            exit
            ref2
                shutdown
            exit
            external
                input-interface
                shutdown
            exit
        exit
        commit
    exit
exit
#-----
echo "System Time Configuration"
#-----
    system
        time
        exit
    exit
#-----
echo "OAM Tests Configuration"
#-----
    test-oam
        twamp

```

```
server
  shutdown
  exit
  exit
  exit
exit all
```