



Sample DER and AR Switch Configurations for the 10-GE Ring Topology

This appendix presents sample distribution edge router (DER) and aggregation router (AR) switch configurations for the symmetric 10-GE topology described in [Configuration 1: 10-GE Layer 3 Ring, page 3-38](#). The following configurations are presented:

- [Configuration for DER1, page A-1](#)
- [Configuration for DER2, page A-10](#)
- [Configuration for AR1, page A-18](#)
- [Configuration for AR2, page A-35](#)
- [Configuration for AR3, page A-52](#)



Note

See [Configuring the 10-GE Ring Topology, page 4-5](#).

Configuration for DER1

```
Building configuration...

Current configuration : 52268 bytes
!
! Last configuration change at 13:02:28 PDT Mon May 15 2006
! NVRAM config last updated at 13:04:45 PDT Mon May 15 2006
!
upgrade fpd auto
version 12.2
service timestamps debug datetime msec localtime
service timestamps log datetime msec localtime
no service password-encryption
service counters max age 10
!
hostname DER1
!
boot system disk0:s72033-advipservicesk9_wan-mz.122-18.SXF2.bin
logging snmp-authfail
enable password cisco
!
no aaa new-model
clock timezone PST -8
clock summer-time PDT recurring
```



```
vlan 70
  name VLAN_70_Multicast_Video

vlan 80
  name VLAN_80_Voice
!
class-map match-all class_VoIP
  match access-group name acl_VoIP
class-map match-all class_VoD_and_SIP_signaling
  match access-group name acl_VoD_and_SIP_signaling
class-map match-all class_video_broadcast
  match access-group name acl_video_broadcast
class-map match-all class_video_VoD
  match access-group name acl_video_VoD
!
!
policy-map setDSCP
  description Mark DSCP values for ingress traffic
  class class_VoD_and_SIP_signaling
    set dscp cs3
  class class_video_broadcast
    set dscp af41
  class class_video_VoD
    set dscp af42
  class class_VoIP
    set dscp ef
!
!
!
interface Loopback3
  description Loopback for MPLS Services
  ip address 10.1.254.1 255.255.255.255
  ip ospf network point-to-point
!
interface GigabitEthernet2/1
  description Management VLAN (CNR - DHCP, DNS, SysLog)
  switchport
  switchport access vlan 10
  switchport mode access
  dampening
  no ip address
  load-interval 30
  carrier-delay msec 0
  wrp-queue bandwidth 64 255 0
  wrp-queue queue-limit 40 50 0
  wrp-queue threshold 2 80 100 100 100 100 100 100 100
  wrp-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrp-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrp-queue random-detect 2
  wrp-queue cos-map 1 1 0 1
  wrp-queue cos-map 2 2 3 4 6 7
  spanning-tree portfast
  spanning-tree bpduguard enable
  service-policy input setDSCP
!
interface GigabitEthernet2/2
  description Middleware Server (Kasenna LivingRoom Server)
  switchport
  switchport access vlan 60
  switchport mode access
  dampening
  no ip address
  load-interval 30
  carrier-delay msec 0
```

```

wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/3
description Kasenna Gigabase Server - Management Interface (Eth0)
switchport
switchport access vlan 60
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/4
description Kasenna Gigabase Server - VoD Pump (HPN0)
switchport
switchport access vlan 60
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/5
description Kasenna Gigabase Server - VoD Pump (HPN1)
switchport
switchport access vlan 60
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0

```

```
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/6
description Minerva Video Streamer - Multicast Video
switchport
switchport access vlan 70
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/7
description VoIP SIP Server
switchport
switchport access vlan 80
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
<---output omitted--->
!
interface GigabitEthernet2/24
description To/From BRAS for 10GE Ring EoMPLS
dampening
no ip address
load-interval 30
carrier-delay msec 0
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
```

```

wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/24.1
description HSD to/from DSLAM1 on AR1
encapsulation dot1Q 300
xconnect 10.1.254.3 300 encapsulation mpls
!
interface GigabitEthernet2/24.2
description HSD to/from DSLAM1 on AR2
encapsulation dot1Q 330
xconnect 10.1.254.4 330 encapsulation mpls
!
interface GigabitEthernet2/24.3
description HSD to/from DSLAM1 on AR3
encapsulation dot1Q 360
xconnect 10.1.254.5 360 encapsulation mpls
!
interface GigabitEthernet5/1
no ip address
shutdown
!
interface GigabitEthernet5/2
no ip address
shutdown
!
interface TenGigabitEthernet7/1
description Transport to/from AR1 (TenGig1/1)
dampening 5 1000 2000 20 restart 16000
mtu 9216
ip address 10.1.1.9 255.255.255.252
ip pim query-interval 100 msec
ip pim sparse-mode
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0 0 0 0 0
wrr-queue queue-limit 40 50 0 0 0 0 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
!
<---output omitted--->
!
interface TenGigabitEthernet7/4
description Transport to/from DER2 (TenGig7/4)
dampening 5 1000 2000 20 restart 16000
mtu 9216
ip address 10.1.1.1 255.255.255.252
ip pim query-interval 100 msec
ip pim sparse-mode
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30

```

```

carrier-delay msec 0
wrr-queue bandwidth 64 255 0 0 0 0 0
wrr-queue queue-limit 40 50 0 0 0 0 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
!
interface Group-Async2
physical-layer async
no ip address
encapsulation slip
!
interface Vlan1
no ip address
shutdown
!
interface Vlan10
description Management VLAN (CNR - DNS, DHCP, etc)
ip address 10.1.10.1 255.255.255.0
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30
!
interface Vlan60
description VoD Server VLAN (Unicast Video)
ip address 10.1.60.1 255.255.255.0
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30
!
interface Vlan70
description Broadcast video source VLAN (Multicast Video)
ip address 10.1.70.1 255.255.255.0
no ip redirects
no ip unreachable
ip pim query-interval 100 msec
ip pim sparse-mode
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30
!
interface Vlan80
description VoIP Gateway VLAN
ip address 10.1.80.1 255.255.255.0
load-interval 30
!
router ospf 100
router-id 10.1.1.1
ispf
log-adjacency-changes
timers throttle spf 10 100 1000
timers throttle lsa all 1 10 1000
timers lsa arrival 100
passive-interface Vlan10
passive-interface Vlan60
passive-interface Vlan70
passive-interface Vlan80
network 10.1.1.0 0.0.0.3 area 0
network 10.1.1.8 0.0.0.3 area 0

```

```

network 10.1.10.0 0.0.0.255 area 0
network 10.1.60.0 0.0.0.255 area 0
network 10.1.70.0 0.0.0.255 area 0
network 10.1.80.0 0.0.0.255 area 0
network 10.1.254.1 0.0.0.0 area 0
maximum-paths 8
!
ip classless
!
no ip http server
ip pim ssm default
!
ip access-list standard LOOPBACK
permit 10.1.254.0 0.0.0.255
!
ip access-list extended acl_VoD_and_SIP_signaling
permit tcp 10.1.60.0 0.0.0.255 any
permit tcp 10.1.61.0 0.0.0.255 any
permit tcp 10.1.80.0 0.0.0.255 any
permit tcp 10.1.81.0 0.0.0.255 any
ip access-list extended acl_VoIP
permit udp any any range 16384 32767
permit udp any range 16384 32767 any
ip access-list extended acl_video_VoD
permit udp 10.1.60.0 0.0.0.255 any
permit udp 10.1.61.0 0.0.0.255 any
ip access-list extended acl_video_broadcast
permit udp 10.1.70.0 0.0.0.255 232.0.0.0 0.255.255.255
!
logging event link-status default
logging trap debugging
logging 10.1.10.10
!
!
!
control-plane
!
!
!
dial-peer cor custom
!
!
!
banner login ^CC
*****
*
*   DDDDDD      EEEEEEEE      RRRRRRR      11
*   DD   DD      EE           RR   RR      1111
*   DD   DD      EE           RR   RR      11
*   DD   DD      EEEEE      RRRRRR      11
*   DD   DD      EE           RR   RR      11
*   DD   DD      EE           RR   RR      11
*   DDDDDD      EEEEEEEE      RR       RR      11111111
*
* Switch = Cisco7609
* Console =
* Topology = Service Router
*
*****

```



```
^C
!
line con 0
  exec-timeout 0 0
  password cisco
  logging synchronous
  login
line vty 0 4
  exec-timeout 0 0
  password cisco
  logging synchronous
  login
!
scheduler runtime netinput 300
ntp clock-period 17180005
ntp update-calendar
ntp server 10.1.60.10 prefer
no cns aaa enable
end
```



```

main-cpu
  auto-sync startup-config
  auto-sync running-config
  auto-sync standard
!
spanning-tree mode rapid-pvst
spanning-tree portfast bpduguard default
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
diagnostic cns publish cisco.cns.device.diag_results
diagnostic cns subscribe cisco.cns.device.diag_commands
fabric buffer-reserve queue
port-channel per-module load-balance
!
vlan internal allocation policy ascending
vlan access-log ratelimit 2000
!
vlan 11
  name VLAN_11_Management
!
vlan 61
  name VLAN_61_VoD
!
vlan 70
  name VLAN_70_Multicast_Video

vlan 81
  name VLAN_81_Voice
!
class-map match-all class_VoIP
  match access-group name acl_VoIP
class-map match-all class_VoD_and_SIP_signaling
  match access-group name acl_VoD_and_SIP_signaling
class-map match-all class_video_broadcast
  match access-group name acl_video_broadcast
class-map match-all class_video_VoD
  match access-group name acl_video_VoD
!
!
policy-map setDSCP
  description Mark DSCP values for ingress traffic
  class class_VoD_and_SIP_signaling
    set dscp cs3
  class class_video_broadcast
    set dscp af41
  class class_video_VoD
    set dscp af42
  class class_VoIP
    set dscp ef
!
!
!
interface Loopback3
  description Loopback for MPLS Services
  ip address 10.1.254.2 255.255.255.255
  ip ospf network point-to-point
!
interface GigabitEthernet2/1
  description Management VLAN (CNR - DHCP, DNS, SysLog)
  switchport
  switchport access vlan 11
  switchport mode access
  dampening
  no ip address

```

```

load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/2
no ip address
shutdown
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/3
description Kasenna Gigabase Server - Management Interface (Eth0)
switchport
switchport access vlan 61
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/4
description Kasenna Gigabase Server - VoD Pump (HPN0)
switchport
switchport access vlan 61
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7

```

```

spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/5
description Kasenna Gigabase Server - VoD Pump (HPN1)
switchport
switchport access vlan 61
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/6
description Minerva Video Streamer - Multicast Video
switchport
switchport access vlan 70
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input setDSCP
!
interface GigabitEthernet2/7
description VoIP SIP Server
switchport
switchport access vlan 81
switchport mode access
dampening
no ip address
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
spanning-tree portfast

```

```

spanning-tree bpduguard enable
service-policy input setDSCP
!
<---output omitted--->
!
interface GigabitEthernet5/1
no ip address
shutdown
!
interface GigabitEthernet5/2
no ip address
shutdown
!
interface TenGigabitEthernet7/1
description Transport to/from AR3 (TenGig1/3)
dampening 5 1000 2000 20 restart 16000
mtu 9216
ip address 10.1.1.34 255.255.255.252
ip pim query-interval 100 msec
ip pim sparse-mode
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0 0 0 0 0
wrr-queue queue-limit 40 50 0 0 0 0 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
!
<---output omitted--->
!
interface TenGigabitEthernet7/4
description Transport to/from DER1 (TenGig7/4)
dampening 5 1000 2000 20 restart 16000
mtu 9216
ip address 10.1.1.2 255.255.255.252
ip pim query-interval 100 msec
ip pim sparse-mode
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0 0 0 0 0
wrr-queue queue-limit 40 50 0 0 0 0 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
!
interface Group-Async5
physical-layer async
no ip address
encapsulation slip
!

```

```
interface Vlan1
  no ip address
  shutdown
!
interface Vlan11
  description Management VLAN (CNR - DNS, DHCP, etc)
  ip address 10.1.11.1 255.255.255.0
  ip ospf network point-to-point
  ip ospf hello-interval 1
  load-interval 30
!
interface Vlan61
  description VoD Server VLAN (Unicast Video)
  ip address 10.1.61.1 255.255.255.0
  ip ospf network point-to-point
  ip ospf hello-interval 1
  load-interval 30
!
interface Vlan70
  description Broadcast video source VLAN (Multicast VLAN)
  ip address 10.1.70.1 255.255.255.0
  no ip redirects
  no ip unreachable
  ip pim query-interval 100 msec
  ip pim sparse-mode
  ip ospf network point-to-point
  ip ospf hello-interval 1
  load-interval 30
!
interface Vlan81
  description VoIP Gateway VLAN
  ip address 1.1.81.1 255.255.255.0
  load-interval 30
!
router ospf 100
  router-id 10.1.1.2
  ispf
  log-adjacency-changes
  timers throttle spf 10 100 1000
  timers throttle lsa all 1 10 1000
  timers lsa arrival 100
  passive-interface Vlan11
  passive-interface Vlan61
  passive-interface Vlan70
  passive-interface Vlan81
  network 10.1.1.0 0.0.0.3 area 0
  network 10.1.1.32 0.0.0.3 area 0
  network 10.1.11.0 0.0.0.255 area 0
  network 10.1.61.0 0.0.0.255 area 0
  network 10.1.70.0 0.0.0.255 area 0
  network 10.1.81.0 0.0.0.255 area 0
  network 10.1.254.2 0.0.0.0 area 0
  maximum-paths 8
!
ip classless
!
no ip http server
ip pim ssm default
!
ip access-list standard LOOPBACK
  permit 10.1.254.0 0.0.0.255
!
ip access-list extended acl_VoD_and_SIP_signaling
  permit tcp 10.1.60.0 0.0.0.255 any
```

```
permit tcp 10.1.61.0 0.0.0.255 any
permit tcp 10.1.80.0 0.0.0.255 any
permit tcp 10.1.81.0 0.0.0.255 any
ip access-list extended acl_VoIP
  permit udp any any range 16384 32767
  permit udp any range 16384 32767 any
ip access-list extended acl_video_VoD
  permit udp 10.1.60.0 0.0.0.255 any
  permit udp 10.1.61.0 0.0.0.255 any
ip access-list extended acl_video_broadcast
  permit udp 10.1.70.0 0.0.0.255 232.0.0.0 0.255.255.255
!
logging event link-status default
logging trap debugging
logging 10.1.10.10
!
!
!
control-plane
!
!
!
dial-peer cor custom
!
!
!
```



```

!
banner login ^CC
*****
*
*   DDDDDD      EEEEEEEE      RRRRRRR      22222222
*   DD   DD     EE           RR    RR       22
*   DD   DD     EE           RR    RR       22
*   DD   DD     EEEEE      RRRRRR      22222222
*   DD   DD     EE           RR    RR       22
*   DD   DD     EE           RR    RR       22
*   DDDDDD      EEEEEEEE      RR      RR   22222222
*
* Switch = Cisco7609
* Console =
* Topology = Service Router
*
*****

^C
!
line con 0
  exec-timeout 0 0
  password cisco
  logging synchronous
  login
line vty 0 4
  exec-timeout 0 0
  password cisco
  logging synchronous
  login
!
monitor event-trace timestamps
ntp clock-period 17179964
ntp update-calendar
ntp server 10.1.60.10 prefer
no cns aaa enable
end

```



```

mode sso
main-cpu
  auto-sync running-config
!
spanning-tree mode rapid-pvst
spanning-tree portfast bpduguard default
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
!
power redundancy-mode combined
diagnostic cns publish cisco.cns.device.diag_results
diagnostic cns subscribe cisco.cns.device.diag_commands
fabric buffer-reserve queue
port-channel per-module load-balance
!
vlan internal allocation policy ascending
vlan access-log ratelimit 2000
!
!
class-map match-all class_VoIP
  match access-group name acl_VoIP
class-map match-all class_VoD_and_SIP_signaling
  match access-group name acl_VoD_and_SIP_signaling
!
!
policy-map setDSCP
  description Mark DSCP values for ingress traffic
  class class_VoIP
    set dscp ef
  class class_VoD_and_SIP_signaling
    set dscp cs3
!
!
!
interface Loopback0
  ip address 10.10.0.1 255.255.0.0
  ip ospf network point-to-point
  load-interval 30
!
interface Loopback1
  ip address 10.20.0.1 255.255.0.0
  ip ospf network point-to-point
  load-interval 30
!
interface Loopback3
  ip address 10.1.254.3 255.255.255.255
  ip ospf network point-to-point
!
interface TenGigabitEthernet1/1
  description Transport to/from DER1 (TenGig7/1)
  dampening 5 1000 2000 20 restart 16000
  mtu 9216
  ip address 10.1.1.10 255.255.255.252
  ip pim query-interval 100 msec
  ip pim sparse-mode
  ip ospf network point-to-point
  ip ospf hello-interval 1
  load-interval 30
  carrier-delay msec 0
  wrr-queue bandwidth 64 255 0 0 0 0
  wrr-queue queue-limit 40 50 0 0 0 0
  wrr-queue threshold 2 80 100 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100

```

```

no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
!
<---output omitted--->
!
interface TenGigabitEthernet1/3
description Transport to/from AR2 (TenGig1/1)
dampening 5 1000 2000 20 restart 16000
mtu 9216
ip address 10.1.1.17 255.255.255.252
ip pim query-interval 100 msec
ip pim sparse-mode
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0 0 0 0 0
wrr-queue queue-limit 40 50 0 0 0 0 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
!
<---output omitted--->
!
interface GigabitEthernet2/1
description 802.1q Interface To Ericsson DSLAM-1
no ip address
load-interval 30
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
no cdp enable
!
interface GigabitEthernet2/1.1
description Video edge VLAN
encapsulation dot1Q 100
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/1.2
description Voice edge VLAN
encapsulation dot1Q 200
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/1.3
description HSD edge VLAN
encapsulation dot1Q 300

```

```

xconnect 1.1.254.1 300 encapsulation mpls
!
interface GigabitEthernet2/2
description 802.1q Interface To Ericsson DSLAM-2
no ip address
load-interval 30
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
no cdp enable
!
interface GigabitEthernet2/2.1
description Video edge VLAN
encapsulation dot1Q 101
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/2.2
description Voice edge VLAN
encapsulation dot1Q 201
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/2.3
description HSD edge VLAN
encapsulation dot1Q 301
xconnect 1.1.254.1 301 encapsulation mpls
!
interface GigabitEthernet2/3
description 802.1q Interface To Ericsson DSLAM-3
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/3.1
description Video edge VLAN
encapsulation dot1Q 102
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/3.2
description Voice edge VLAN
encapsulation dot1Q 202
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/3.3

```

```

description HSD edge VLAN
encapsulation dot1Q 302
xconnect 1.1.254.1 302 encapsulation mpls
!
interface GigabitEthernet2/4
description 802.1q Interface To Ericsson DSLAM-4
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/4.1
description Video edge VLAN
encapsulation dot1Q 103
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/4.2
description Voice edge VLAN
encapsulation dot1Q 203
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/4.3
description HSD edge VLAN
encapsulation dot1Q 303
xconnect 1.1.254.1 303 encapsulation mpls
!
interface GigabitEthernet2/5
description 802.1q Interface To Ericsson DSLAM-5
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/5.1
description Video edge VLAN
encapsulation dot1Q 104
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/5.2
description Voice edge VLAN
encapsulation dot1Q 204
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/5.3

```

```

description HSD edge VLAN
encapsulation dot1Q 304
xconnect 1.1.254.1 304 encapsulation mpls
!
interface GigabitEthernet2/6
description 802.1q Interface To Ericsson DSLAM-6
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/6.1
description Video edge VLAN
encapsulation dot1Q 105
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/6.2
description Voice edge VLAN
encapsulation dot1Q 205
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/6.3
description HSD edge VLAN
encapsulation dot1Q 305
xconnect 1.1.254.1 305 encapsulation mpls
!
interface GigabitEthernet2/7
description 802.1q Interface To Ericsson DSLAM-7
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/7.1
description Video edge VLAN
encapsulation dot1Q 106
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/7.2
description Voice edge VLAN
encapsulation dot1Q 206
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/7.3

```

```

description HSD edge VLAN
encapsulation dot1Q 306
xconnect 1.1.254.1 306 encapsulation mpls
!
interface GigabitEthernet2/8
description 802.1q Interface To Ericsson DSLAM-8
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/8.1
description Video edge VLAN
encapsulation dot1Q 107
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/8.2
description Voice edge VLAN
encapsulation dot1Q 207
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/8.3
description HSD edge VLAN
encapsulation dot1Q 307
xconnect 1.1.254.1 307 encapsulation mpls
!
interface GigabitEthernet2/9
description 802.1q Interface To Ericsson DSLAM-9
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/9.1
description Video edge VLAN
encapsulation dot1Q 108
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/9.2
description Voice edge VLAN
encapsulation dot1Q 208
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/9.3

```



```
description HSD edge VLAN
encapsulation dot1Q 308
xconnect 1.1.254.1 308 encapsulation mpls
!
interface GigabitEthernet2/10
description 802.1q Interface To Ericsson DSLAM-10
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/10.1
description Video edge VLAN
encapsulation dot1Q 109
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/10.2
description Voice edge VLAN
encapsulation dot1Q 209
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/10.3
description HSD edge VLAN
encapsulation dot1Q 309
xconnect 1.1.254.1 309 encapsulation mpls
!
interface GigabitEthernet2/11
description 802.1q Interface To Ericsson DSLAM-11
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/11.1
description Video edge VLAN
encapsulation dot1Q 110
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/11.2
description Voice edge VLAN
encapsulation dot1Q 210
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/11.3
```

```

description HSD edge VLAN
encapsulation dot1Q 310
xconnect 1.1.254.1 310 encapsulation mpls
!
interface GigabitEthernet2/12
description 802.1q Interface To Ericsson DSLAM-12
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/12.1
description Video edge VLAN
encapsulation dot1Q 111
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/12.2
description Voice edge VLAN
encapsulation dot1Q 211
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/12.3
description HSD edge VLAN
encapsulation dot1Q 311
xconnect 1.1.254.1 311 encapsulation mpls
!
interface GigabitEthernet2/13
description 802.1q Interface To Ericsson DSLAM-13
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/13.1
description Video edge VLAN
encapsulation dot1Q 112
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/13.2
description Voice edge VLAN
encapsulation dot1Q 212
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/13.3

```

```
description HSD edge VLAN
encapsulation dot1Q 312
xconnect 1.1.254.1 312 encapsulation mpls
!
interface GigabitEthernet2/14
description 802.1q Interface To Ericsson DSLAM-14
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/14.1
description Video edge VLAN
encapsulation dot1Q 113
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/14.2
description Voice edge VLAN
encapsulation dot1Q 213
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/14.3
description HSD edge VLAN
encapsulation dot1Q 313
xconnect 1.1.254.1 313 encapsulation mpls
!
interface GigabitEthernet2/15
description 802.1q Interface To Ericsson DSLAM-15
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/15.1
description Video edge VLAN
encapsulation dot1Q 114
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/15.2
description Voice edge VLAN
encapsulation dot1Q 214
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/15.3
```

```

description HSD edge VLAN
encapsulation dot1Q 314
xconnect 1.1.254.1 314 encapsulation mpls
!
interface GigabitEthernet2/16
description 802.1q Interface To Ericsson DSLAM-16
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/16.1
service-policy input setDSCP
!
interface GigabitEthernet2/16.2
description Voice edge VLAN
encapsulation dot1Q 215
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/16.3
description HSD edge VLAN
encapsulation dot1Q 315
xconnect 1.1.254.1 315 encapsulation mpls
!
interface GigabitEthernet2/17
description 802.1q Interface To Ericsson DSLAM-17
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/17.1
description Video edge VLAN
encapsulation dot1Q 116
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/17.2
description Voice edge VLAN
encapsulation dot1Q 216
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/17.3
description HSD edge VLAN
encapsulation dot1Q 316
xconnect 1.1.254.1 316 encapsulation mpls
!
interface GigabitEthernet2/18

```

```
description 802.1q Interface To Ericsson DSLAM-18
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/18.1
description Video edge VLAN
encapsulation dot1Q 117
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/18.2
description Voice edge VLAN
encapsulation dot1Q 217
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/18.3
description HSD edge VLAN
encapsulation dot1Q 317
xconnect 1.1.254.1 317 encapsulation mpls
!
interface GigabitEthernet2/19
description 802.1q Interface To Ericsson DSLAM-19
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/19.1
description Video edge VLAN
encapsulation dot1Q 118
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/19.2
description Voice edge VLAN
encapsulation dot1Q 218
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/19.3
description HSD edge VLAN
encapsulation dot1Q 318
xconnect 1.1.254.1 318 encapsulation mpls
!
interface GigabitEthernet2/20
```

```

description 802.1q Interface To Ericsson DSLAM-20
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/20.1
description Video edge VLAN
encapsulation dot1Q 119
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/20.2
description Voice edge VLAN
encapsulation dot1Q 219
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/20.3
description HSD edge VLAN
encapsulation dot1Q 319
xconnect 1.1.254.1 319 encapsulation mpls
!
interface GigabitEthernet2/21
description 802.1q Interface To Ericsson DSLAM-21
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/21.1
description Video edge VLAN
encapsulation dot1Q 120
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/21.2
description Voice edge VLAN
encapsulation dot1Q 220
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/21.3
description HSD edge VLAN
encapsulation dot1Q 320
xconnect 1.1.254.1 320 encapsulation mpls
!
interface GigabitEthernet2/22

```

```
description Agilent 101-4
no ip address
load-interval 30
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/22.1
description Video edge VLAN
encapsulation dot1Q 121
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/22.2
description Voice edge VLAN
encapsulation dot1Q 221
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/22.3
description HSD edge VLAN
encapsulation dot1Q 321
xconnect 1.1.254.1 321 encapsulation mpls
!
interface GigabitEthernet2/23
description 802.1q Interface To Ericsson DSLAM-23
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/23.1
description Video edge VLAN
encapsulation dot1Q 122
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/23.2
description Voice edge VLAN
encapsulation dot1Q 222
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/23.3
description HSD edge VLAN
encapsulation dot1Q 322
xconnect 1.1.254.1 322 encapsulation mpls
!
```

```

interface GigabitEthernet2/24
description 802.1q Interface To Ericsson DSLAM-24
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/24.1
description Video edge VLAN
encapsulation dot1Q 123
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/24.2
description Voice edge VLAN
encapsulation dot1Q 223
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/24.3
description HSD edge VLAN
encapsulation dot1Q 323
xconnect 1.1.254.1 323 encapsulation mpls
!
interface GigabitEthernet5/1
no ip address
shutdown
!
interface GigabitEthernet5/2
no ip address
shutdown
media-type rj45
!
interface Vlan1
no ip address
shutdown
!
router ospf 100
router-id 10.1.1.3
ispf
log-adjacency-changes
timers throttle spf 10 100 1000
timers throttle lsa all 1 10 1000
timers lsa arrival 100
network 10.1.1.9 0.0.0.3 area 0
network 10.1.1.17 0.0.0.3 area 0
network 10.1.254.3 0.0.0.0 area 0
network 10.10.0.0 0.0.255.255 area 0
network 10.20.0.0 0.0.255.255 area 0
!
ip classless
!
no ip http server
ip pim ssm default
!
ip access-list standard LOOPBACK

```



```

    permit 10.1.254.0 0.0.0.255
    !
ip access-list extended acl_VoD_and_SIP_signaling
    permit ip any host 10.1.10.10
    permit ip any 10.1.60.0 0.0.0.255
    permit ip any 10.1.61.0 0.0.0.255
    permit ip any 10.1.80.0 0.0.0.255
    permit ip any 10.1.81.0 0.0.0.255
ip access-list extended acl_VoIP
    permit udp any any range 16384 32767
    permit udp any range 16384 32767 any
    !
logging event link-status default
logging trap debugging
logging 10.1.10.10
    !
    !
    !
control-plane
    !
    !
    !
dial-peer cor custom
    !
    !
    !
banner login ^CCC
*****
*
*   AA   RRRRRRR   11
*   AAAA  RR   RR   1111
*   AA  AA  RR   RR   11
*   AAAAAA  RR RRR   11
*   AAAAAA  RR  RR   11
*   AA  AA  RR   RR   11
*   AA  AA  RR   RR  111111
*
* Switch = Catalyst7606
* Console =
* Topology = 10GE Ring
*
*****

^C
!
line con 0
    exec-timeout 0 0
    password cisco
    logging synchronous
    login
line vty 0 4
    exec-timeout 0 0
    password cisco
    logging synchronous
    login
!
monitor event-trace timestamps
ntp clock-period 17180100

```

■ Configuration for AR1

```
ntp update-calendar
ntp server 10.1.60.10 prefer
no cns aaa enable
end
```



```

main-cpu
 auto-sync running-config
!
spanning-tree mode rapid-pvst
spanning-tree portfast bpduguard default
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
!
power redundancy-mode combined
diagnostic cns publish cisco.cns.device.diag_results
diagnostic cns subscribe cisco.cns.device.diag_commands
fabric buffer-reserve queue
port-channel per-module load-balance
!
vlan internal allocation policy ascending
vlan access-log ratelimit 2000
!
!
class-map match-all class_VoIP
 match access-group name acl_VoIP
class-map match-all class_VoD_and_SIP_signaling
 match access-group name acl_VoD_and_SIP_signaling
class-map match-all class_HSD
 match access-group name acl_HSD
!
!
policy-map setDSCP
 description Mark DSCP values for ingress traffic
 class class_VoIP
  set dscp ef
 class class_VoD_and_SIP_signaling
  set dscp cs3
!
!
!
interface Loopback0
 ip address 10.11.0.1 255.255.0.0
 ip ospf network point-to-point
 load-interval 30
!
interface Loopback1
 ip address 10.21.0.1 255.255.0.0
 ip ospf network point-to-point
 load-interval 30
!
interface Loopback3
 ip address 10.1.254.4 255.255.255.255
 ip ospf network point-to-point
!
interface TenGigabitEthernet1/1
 description Transport to/from AR1 (TenGig1/3)
 dampening 5 1000 2000 20 restart 16000
 mtu 9216
 ip address 10.1.1.18 255.255.255.252
 ip pim query-interval 100 msec
 ip pim sparse-mode
 ip ospf network point-to-point
 ip ospf hello-interval 1
 load-interval 30
 carrier-delay msec 0
 wrr-queue bandwidth 64 255 0 0 0 0 0
 wrr-queue queue-limit 40 50 0 0 0 0 0
 wrr-queue threshold 2 80 100 100 100 100 100 100 100
 wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100

```

```

wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
!
<---output omitted--->
!
interface TenGigabitEthernet1/3
description Transport to/from AR3 (TenGig1/1)
dampening 5 1000 2000 20 restart 16000
mtu 9216
ip address 10.1.1.25 255.255.255.252
ip pim query-interval 100 msec
ip pim sparse-mode
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0 0 0 0 0
wrr-queue queue-limit 40 50 0 0 0 0 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
!
<---output omitted--->
!
interface GigabitEthernet2/1
description 802.1q Interface To Ericsson DSLAM-1
no ip address
load-interval 30
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
no cdp enable
!
interface GigabitEthernet2/1.1
description Video edge VLAN
encapsulation dot1Q 100
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/1.2
description Voice edge VLAN
encapsulation dot1Q 200
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/1.3
description HSD edge VLAN

```

```

encapsulation dot1Q 330
xconnect 1.1.254.1 330 encapsulation mpls
!
interface GigabitEthernet2/2
description 802.1q Interface To Ericsson DSLAM-2
no ip address
load-interval 30
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
no cdp enable
!
interface GigabitEthernet2/2.1
description Video edge VLAN
encapsulation dot1Q 101
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/2.2
description Voice edge VLAN
encapsulation dot1Q 201
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/2.3
description HSD edge VLAN
encapsulation dot1Q 331
xconnect 1.1.254.1 331 encapsulation mpls
!
interface GigabitEthernet2/3
description 802.1q Interface To Ericsson DSLAM-3
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/3.1
description Video edge VLAN
encapsulation dot1Q 102
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/3.2
description Voice edge VLAN
encapsulation dot1Q 202
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!

```

```
interface GigabitEthernet2/3.3
description HSD edge VLAN
encapsulation dot1Q 332
xconnect 1.1.254.1 332 encapsulation mpls
!
interface GigabitEthernet2/4
description 802.1q Interface To Ericsson DSLAM-4
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/4.1
description Video edge VLAN
encapsulation dot1Q 103
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/4.2
description Voice edge VLAN
encapsulation dot1Q 203
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/4.3
description HSD edge VLAN
encapsulation dot1Q 333
xconnect 1.1.254.1 333 encapsulation mpls
!
interface GigabitEthernet2/5
description 802.1q Interface To Ericsson DSLAM-5
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/5.1
description Video edge VLAN
encapsulation dot1Q 104
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/5.2
description Voice edge VLAN
encapsulation dot1Q 204
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
```

```

interface GigabitEthernet2/5.3
description HSD edge VLAN
encapsulation dot1Q 334
xconnect 1.1.254.1 334 encapsulation mpls
!
interface GigabitEthernet2/6
description 802.1q Interface To Ericsson DSLAM-6
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/6.1
description Video edge VLAN
encapsulation dot1Q 105
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/6.2
description Voice edge VLAN
encapsulation dot1Q 205
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/6.3
description HSD edge VLAN
encapsulation dot1Q 335
xconnect 1.1.254.1 335 encapsulation mpls
!
interface GigabitEthernet2/7
description 802.1q Interface To Ericsson DSLAM-7
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/7.1
description Video edge VLAN
encapsulation dot1Q 106
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/7.2
description Voice edge VLAN
encapsulation dot1Q 206
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!

```



```
interface GigabitEthernet2/7.3
description HSD edge VLAN
encapsulation dot1Q 336
xconnect 1.1.254.1 336 encapsulation mpls
!
interface GigabitEthernet2/8
description 802.1q Interface To Ericsson DSLAM-8
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/8.1
description Video edge VLAN
encapsulation dot1Q 107
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/8.2
description Voice edge VLAN
encapsulation dot1Q 207
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/8.3
description HSD edge VLAN
encapsulation dot1Q 337
xconnect 1.1.254.1 337 encapsulation mpls
!
interface GigabitEthernet2/9
description 802.1q Interface To Ericsson DSLAM-9
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/9.1
description Video edge VLAN
encapsulation dot1Q 108
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/9.2
description Voice edge VLAN
encapsulation dot1Q 208
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
```

```

interface GigabitEthernet2/9.3
description HSD edge VLAN
encapsulation dot1Q 338
xconnect 1.1.254.1 338 encapsulation mpls
!
interface GigabitEthernet2/10
description 802.1q Interface To Ericsson DSLAM-10
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/10.1
description Video edge VLAN
encapsulation dot1Q 109
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/10.2
description Voice edge VLAN
encapsulation dot1Q 209
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/10.3
description HSD edge VLAN
encapsulation dot1Q 339
xconnect 1.1.254.1 339 encapsulation mpls
!
interface GigabitEthernet2/11
description 802.1q Interface To Ericsson DSLAM-11
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/11.1
description Video edge VLAN
encapsulation dot1Q 110
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/11.2
description Voice edge VLAN
encapsulation dot1Q 210
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!

```

```

interface GigabitEthernet2/11.3
description HSD edge VLAN
encapsulation dot1Q 340
xconnect 1.1.254.1 340 encapsulation mpls
!
interface GigabitEthernet2/12
description 802.1q Interface To Ericsson DSLAM-12
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/12.1
description Video edge VLAN
encapsulation dot1Q 111
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/12.2
description Voice edge VLAN
encapsulation dot1Q 211
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/12.3
description HSD edge VLAN
encapsulation dot1Q 341
xconnect 1.1.254.1 341 encapsulation mpls
!
interface GigabitEthernet2/13
description 802.1q Interface To Ericsson DSLAM-13
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/13.1
description Video edge VLAN
encapsulation dot1Q 112
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/13.2
description Voice edge VLAN
encapsulation dot1Q 212
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!

```

```

interface GigabitEthernet2/13.3
description HSD edge VLAN
encapsulation dot1Q 342
xconnect 1.1.254.1 342 encapsulation mpls
!
interface GigabitEthernet2/14
description 802.1q Interface To Ericsson DSLAM-14
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/14.1
description Video edge VLAN
encapsulation dot1Q 113
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/14.2
description Voice edge VLAN
encapsulation dot1Q 213
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/14.3
description HSD edge VLAN
encapsulation dot1Q 343
xconnect 1.1.254.1 343 encapsulation mpls
!
interface GigabitEthernet2/15
description 802.1q Interface To Ericsson DSLAM-15
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/15.1
description Video edge VLAN
encapsulation dot1Q 114
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/15.2
description Voice edge VLAN
encapsulation dot1Q 214
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!

```

```
interface GigabitEthernet2/15.3
description HSD edge VLAN
encapsulation dot1Q 344
xconnect 1.1.254.1 344 encapsulation mpls
!
interface GigabitEthernet2/16
description 802.1q Interface To Ericsson DSLAM-16
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/16.1
service-policy input setDSCP
!
interface GigabitEthernet2/16.2
description Voice edge VLAN
encapsulation dot1Q 215
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/16.3
description HSD edge VLAN
encapsulation dot1Q 345
xconnect 1.1.254.1 345 encapsulation mpls
!
interface GigabitEthernet2/17
description 802.1q Interface To Ericsson DSLAM-17
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/17.1
description Video edge VLAN
encapsulation dot1Q 116
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/17.2
description Voice edge VLAN
encapsulation dot1Q 216
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/17.3
description HSD edge VLAN
encapsulation dot1Q 346
xconnect 1.1.254.1 346 encapsulation mpls
!
```

```

interface GigabitEthernet2/18
description 802.1q Interface To Ericsson DSLAM-18
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/18.1
description Video edge VLAN
encapsulation dot1Q 117
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/18.2
description Voice edge VLAN
encapsulation dot1Q 217
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/18.3
description HSD edge VLAN
encapsulation dot1Q 347
xconnect 1.1.254.1 347 encapsulation mpls
!
interface GigabitEthernet2/19
description 802.1q Interface To Ericsson DSLAM-19
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/19.1
description Video edge VLAN
encapsulation dot1Q 118
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/19.2
description Voice edge VLAN
encapsulation dot1Q 218
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/19.3
description HSD edge VLAN
encapsulation dot1Q 348
xconnect 1.1.254.1 348 encapsulation mpls
!

```

```
interface GigabitEthernet2/20
description 802.lq Interface To Ericsson DSLAM-20
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/20.1
description Video edge VLAN
encapsulation dot1Q 119
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/20.2
description Voice edge VLAN
encapsulation dot1Q 219
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/20.3
description HSD edge VLAN
encapsulation dot1Q 349
xconnect 1.1.254.1 349 encapsulation mpls
!
interface GigabitEthernet2/21
description 802.lq Interface To Ericsson DSLAM-21
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/21.1
description Video edge VLAN
encapsulation dot1Q 120
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/21.2
description Voice edge VLAN
encapsulation dot1Q 220
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/21.3
description HSD edge VLAN
encapsulation dot1Q 350
xconnect 1.1.254.1 350 encapsulation mpls
!
```

```

interface GigabitEthernet2/22
description Agilent 101-4
no ip address
load-interval 30
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/22.1
description Video edge VLAN
encapsulation dot1Q 121
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/22.2
description Voice edge VLAN
encapsulation dot1Q 221
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/22.3
description HSD edge VLAN
encapsulation dot1Q 351
xconnect 1.1.254.1 351 encapsulation mpls
!
interface GigabitEthernet2/23
description 802.1q Interface To Ericsson DSLAM-23
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/23.1
description Video edge VLAN
encapsulation dot1Q 122
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/23.2
description Voice edge VLAN
encapsulation dot1Q 222
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/23.3
description HSD edge VLAN
encapsulation dot1Q 352
xconnect 1.1.254.1 352 encapsulation mpls

```



```

!
interface GigabitEthernet2/24
  description 802.1q Interface To Ericsson DSLAM-24
  no ip address
  wrp-queue bandwidth 64 255 0
  wrp-queue queue-limit 40 50 0
  wrp-queue threshold 2 80 100 100 100 100 100 100 100
  wrp-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrp-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrp-queue random-detect 2
  wrp-queue cos-map 1 1 0 1
  wrp-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/24.1
  description Video edge VLAN
  encapsulation dot1Q 123
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/24.2
  description Voice edge VLAN
  encapsulation dot1Q 223
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP
!
interface GigabitEthernet2/24.3
  description HSD edge VLAN
  encapsulation dot1Q 353
  xconnect 1.1.254.1 353 encapsulation mpls
!
interface GigabitEthernet5/1
  no ip address
  shutdown
!
interface GigabitEthernet5/2
  no ip address
  shutdown
  media-type rj45
!
interface Vlan1
  no ip address
  shutdown
!
router ospf 100
  router-id 10.1.1.4
  ispf
  log-adjacency-changes
  timers throttle spf 10 100 1000
  timers throttle lsa all 1 10 1000
  timers lsa arrival 100
  network 10.1.1.16 0.0.0.3 area 0
  network 10.1.1.24 0.0.0.3 area 0
  network 10.1.254.4 0.0.0.0 area 0
  network 10.11.0.0 0.0.255.255 area 0
  network 10.21.0.0 0.0.255.255 area 0
!
ip classless
!
no ip http server
ip pim ssm default
!

```

```

ip access-list standard LOOPBACK
 permit 10.1.254.0 0.0.0.255
!
ip access-list extended acl_VoD_and_SIP_signaling
 permit ip any host 10.1.10.10
 permit ip any 10.1.60.0 0.0.0.255
 permit ip any 10.1.61.0 0.0.0.255
 permit ip any 10.1.80.0 0.0.0.255
 permit ip any 10.1.81.0 0.0.0.255
ip access-list extended acl_VoIP
 permit udp any any range 16384 32767
 permit udp any range 16384 32767 any
!
logging event link-status default
logging trap debugging
logging 10.1.10.10
!
!
!
control-plane
!
!
!
dial-peer cor custom
!
!
!
!
banner login ^CCC
*****
*
*   AA   RRRRRR   222222
*  AAAA  RR   RR     22
* AA AA  RR   RR     22
* AAAAAA RR RRR   22222
* AAAAAA RR  RR    22
* AA AA  RR   RR    22
* AA AA  RR   RR   222222
*
* Switch = Catalyst7606
* Console =
* Topology = 10GE Ring
*
*****

^C
!
line con 0
 exec-timeout 0 0
 password cisco
 logging synchronous
 login
line vty 0 4
 exec-timeout 0 0
 password cisco
 logging synchronous
 login
!
!

```

```
ntp clock-period 17180088
ntp update-calendar
ntp server 10.1.60.10 prefer
no cns aaa enable
end
```



```

    auto-sync running-config
!
spanning-tree mode rapid-pvst
spanning-tree portfast bpduguard default
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
!
power redundancy-mode combined
error-detection packet-buffer action none
diagnostic cns publish cisco.cns.device.diag_results
diagnostic cns subscribe cisco.cns.device.diag_commands
fabric buffer-reserve queue
port-channel per-module load-balance
!
vlan internal allocation policy ascending
vlan access-log ratelimit 2000
!
!
class-map match-all class_VoIP
  match access-group name acl_VoIP
class-map match-all class_VoD_and_SIP_signaling
  match access-group name acl_VoD_and_SIP_signaling
class-map match-all class_HSD
  match access-group name acl_HSD
!
!
policy-map setDSCP
  description Mark DSCP values for ingress traffic
  class class_VoIP
    set dscp ef
  class class_VoD_and_SIP_signaling
    set dscp cs3
!
!
!
interface Loopback0
  ip address 10.12.0.1 255.255.0.0
  ip ospf network point-to-point
  load-interval 30
!
interface Loopback1
  ip address 10.22.0.1 255.255.0.0
  ip ospf network point-to-point
  load-interval 30
!
interface Loopback3
  ip address 10.1.254.5 255.255.255.255
  ip ospf network point-to-point
!
interface TenGigabitEthernet1/1
  description Transport to/from AR2 (TenGig1/3)
  dampening 5 1000 2000 20 restart 16000
  mtu 9216
  ip address 10.1.1.26 255.255.255.252
  ip pim query-interval 100 msec
  ip pim sparse-mode
  ip ospf network point-to-point
  ip ospf hello-interval 1
  load-interval 30
  carrier-delay msec 0
  wrr-queue bandwidth 64 255 0 0 0 0
  wrr-queue queue-limit 40 50 0 0 0 0
  wrr-queue threshold 2 80 100 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100

```

```

wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
!
<---output omitted--->
!
interface TenGigabitEthernet1/3
description Transport to/from DER2 (TenGig7/1)
dampening 5 1000 2000 20 restart 16000
mtu 9216
ip address 1.1.2.25 255.255.255.252
ip pim query-interval 100 msec
ip pim sparse-mode
ip ospf network point-to-point
ip ospf hello-interval 1
load-interval 30
carrier-delay msec 0
wrr-queue bandwidth 64 255 0 0 0 0 0
wrr-queue queue-limit 40 50 0 0 0 0 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
tag-switching ip
mls qos trust dscp
spanning-tree portfast trunk
!
<---output omitted--->
!
interface GigabitEthernet2/1
description 802.1q Interface To Ericsson DSLAM-1
no ip address
load-interval 30
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
no cdp enable
!
interface GigabitEthernet2/1.1
description Video edge VLAN
encapsulation dot1Q 100
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/1.2
description Voice edge VLAN
encapsulation dot1Q 200
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/1.3

```

```

description HSD edge VLAN
encapsulation dot1Q 360
xconnect 1.1.254.1 360 encapsulation mpls
!
interface GigabitEthernet2/2
description 802.1q Interface To Ericsson DSLAM-2
no ip address
load-interval 30
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
no cdp enable
!
interface GigabitEthernet2/2.1
description Video edge VLAN
encapsulation dot1Q 101
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/2.2
description Voice edge VLAN
encapsulation dot1Q 201
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/2.3
description HSD edge VLAN
encapsulation dot1Q 361
xconnect 1.1.254.1 361 encapsulation mpls
!
interface GigabitEthernet2/3
description 802.1q Interface To Ericsson DSLAM-3
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/3.1
description Video edge VLAN
encapsulation dot1Q 102
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/3.2
description Voice edge VLAN
encapsulation dot1Q 202
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP

```

```

!
interface GigabitEthernet2/3.3
  description HSD edge VLAN
  encapsulation dot1Q 362
  xconnect 1.1.254.1 362 encapsulation mpls
!
interface GigabitEthernet2/4
  description 802.1q Interface To Ericsson DSLAM-4
  no ip address
  wrr-queue bandwidth 64 255 0
  wrr-queue queue-limit 40 50 0
  wrr-queue threshold 2 80 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
  no wrr-queue random-detect 2
  wrr-queue cos-map 1 1 0 1
  wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/4.1
  description Video edge VLAN
  encapsulation dot1Q 103
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/4.2
  description Voice edge VLAN
  encapsulation dot1Q 203
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP
!
interface GigabitEthernet2/4.3
  description HSD edge VLAN
  encapsulation dot1Q 363
  xconnect 1.1.254.1 363 encapsulation mpls
!
interface GigabitEthernet2/5
  description 802.1q Interface To Ericsson DSLAM-5
  no ip address
  wrr-queue bandwidth 64 255 0
  wrr-queue queue-limit 40 50 0
  wrr-queue threshold 2 80 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
  no wrr-queue random-detect 2
  wrr-queue cos-map 1 1 0 1
  wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/5.1
  description Video edge VLAN
  encapsulation dot1Q 104
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/5.2
  description Voice edge VLAN
  encapsulation dot1Q 204
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP

```



```
!
interface GigabitEthernet2/5.3
  description HSD edge VLAN
  encapsulation dot1Q 364
  xconnect 1.1.254.1 364 encapsulation mpls
!
interface GigabitEthernet2/6
  description 802.lq Interface To Ericsson DSLAM-6
  no ip address
  wrr-queue bandwidth 64 255 0
  wrr-queue queue-limit 40 50 0
  wrr-queue threshold 2 80 100 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrr-queue random-detect 2
  wrr-queue cos-map 1 1 0 1
  wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/6.1
  description Video edge VLAN
  encapsulation dot1Q 105
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/6.2
  description Voice edge VLAN
  encapsulation dot1Q 205
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP
!
interface GigabitEthernet2/6.3
  description HSD edge VLAN
  encapsulation dot1Q 365
  xconnect 1.1.254.1 365 encapsulation mpls
!
interface GigabitEthernet2/7
  description 802.lq Interface To Ericsson DSLAM-7
  no ip address
  wrr-queue bandwidth 64 255 0
  wrr-queue queue-limit 40 50 0
  wrr-queue threshold 2 80 100 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrr-queue random-detect 2
  wrr-queue cos-map 1 1 0 1
  wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/7.1
  description Video edge VLAN
  encapsulation dot1Q 106
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/7.2
  description Voice edge VLAN
  encapsulation dot1Q 206
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP
```

```

!
interface GigabitEthernet2/7.3
description HSD edge VLAN
encapsulation dot1Q 366
xconnect 1.1.254.1 366 encapsulation mpls
!
interface GigabitEthernet2/8
description 802.lq Interface To Ericsson DSLAM-8
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/8.1
description Video edge VLAN
encapsulation dot1Q 107
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/8.2
description Voice edge VLAN
encapsulation dot1Q 207
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/8.3
description HSD edge VLAN
encapsulation dot1Q 367
xconnect 1.1.254.1 367 encapsulation mpls
!
interface GigabitEthernet2/9
description 802.lq Interface To Ericsson DSLAM-9
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/9.1
description Video edge VLAN
encapsulation dot1Q 108
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/9.2
description Voice edge VLAN
encapsulation dot1Q 208
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP

```

```

!
interface GigabitEthernet2/9.3
  description HSD edge VLAN
  encapsulation dot1Q 368
  xconnect 1.1.254.1 368 encapsulation mpls
!
interface GigabitEthernet2/10
  description 802.lq Interface To Ericsson DSLAM-10
  no ip address
  wrr-queue bandwidth 64 255 0
  wrr-queue queue-limit 40 50 0
  wrr-queue threshold 2 80 100 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrr-queue random-detect 2
  wrr-queue cos-map 1 1 0 1
  wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/10.1
  description Video edge VLAN
  encapsulation dot1Q 109
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/10.2
  description Voice edge VLAN
  encapsulation dot1Q 209
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP
!
interface GigabitEthernet2/10.3
  description HSD edge VLAN
  encapsulation dot1Q 369
  xconnect 1.1.254.1 369 encapsulation mpls
!
interface GigabitEthernet2/11
  description 802.lq Interface To Ericsson DSLAM-11
  no ip address
  wrr-queue bandwidth 64 255 0
  wrr-queue queue-limit 40 50 0
  wrr-queue threshold 2 80 100 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrr-queue random-detect 2
  wrr-queue cos-map 1 1 0 1
  wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/11.1
  description Video edge VLAN
  encapsulation dot1Q 110
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/11.2
  description Voice edge VLAN
  encapsulation dot1Q 210
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP

```

```

!
interface GigabitEthernet2/11.3
  description HSD edge VLAN
  encapsulation dot1Q 370
  xconnect 1.1.254.1 370 encapsulation mpls
!
interface GigabitEthernet2/12
  description 802.1q Interface To Ericsson DSLAM-12
  no ip address
  wrr-queue bandwidth 64 255 0
  wrr-queue queue-limit 40 50 0
  wrr-queue threshold 2 80 100 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrr-queue random-detect 2
  wrr-queue cos-map 1 1 0 1
  wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/12.1
  description Video edge VLAN
  encapsulation dot1Q 111
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/12.2
  description Voice edge VLAN
  encapsulation dot1Q 211
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP
!
interface GigabitEthernet2/12.3
  description HSD edge VLAN
  encapsulation dot1Q 371
  xconnect 1.1.254.1 371 encapsulation mpls
!
interface GigabitEthernet2/13
  description 802.1q Interface To Ericsson DSLAM-13
  no ip address
  wrr-queue bandwidth 64 255 0
  wrr-queue queue-limit 40 50 0
  wrr-queue threshold 2 80 100 100 100 100 100 100 100
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrr-queue random-detect 2
  wrr-queue cos-map 1 1 0 1
  wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/13.1
  description Video edge VLAN
  encapsulation dot1Q 112
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/13.2
  description Voice edge VLAN
  encapsulation dot1Q 212
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP

```

```
!  
interface GigabitEthernet2/13.3  
  description HSD edge VLAN  
  encapsulation dot1Q 372  
  xconnect 1.1.254.1 372 encapsulation mpls  
!  
interface GigabitEthernet2/14  
  description 802.lq Interface To Ericsson DSLAM-14  
  no ip address  
  wrr-queue bandwidth 64 255 0  
  wrr-queue queue-limit 40 50 0  
  wrr-queue threshold 2 80 100 100 100 100 100 100 100  
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100  
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100  
  no wrr-queue random-detect 2  
  wrr-queue cos-map 1 1 0 1  
  wrr-queue cos-map 2 2 3 4 6 7  
!  
interface GigabitEthernet2/14.1  
  description Video edge VLAN  
  encapsulation dot1Q 113  
  ip unnumbered Loopback0  
  ip helper-address 10.1.10.10  
  ip pim sparse-mode  
  service-policy input setDSCP  
!  
interface GigabitEthernet2/14.2  
  description Voice edge VLAN  
  encapsulation dot1Q 213  
  ip unnumbered Loopback1  
  ip helper-address 10.1.10.10  
  service-policy input setDSCP  
!  
interface GigabitEthernet2/14.3  
  description HSD edge VLAN  
  encapsulation dot1Q 373  
  xconnect 1.1.254.1 373 encapsulation mpls  
!  
interface GigabitEthernet2/15  
  description 802.lq Interface To Ericsson DSLAM-15  
  no ip address  
  wrr-queue bandwidth 64 255 0  
  wrr-queue queue-limit 40 50 0  
  wrr-queue threshold 2 80 100 100 100 100 100 100 100  
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100  
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100  
  no wrr-queue random-detect 2  
  wrr-queue cos-map 1 1 0 1  
  wrr-queue cos-map 2 2 3 4 6 7  
!  
interface GigabitEthernet2/15.1  
  description Video edge VLAN  
  encapsulation dot1Q 114  
  ip unnumbered Loopback0  
  ip helper-address 10.1.10.10  
  ip pim sparse-mode  
  service-policy input setDSCP  
!  
interface GigabitEthernet2/15.2  
  description Voice edge VLAN  
  encapsulation dot1Q 214  
  ip unnumbered Loopback1  
  ip helper-address 10.1.10.10  
  service-policy input setDSCP
```

```

!
interface GigabitEthernet2/15.3
description HSD edge VLAN
encapsulation dot1Q 374
xconnect 1.1.254.1 374 encapsulation mpls
!
interface GigabitEthernet2/16
description 802.1q Interface To Ericsson DSLAM-16
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/16.1
service-policy input setDSCP
!
interface GigabitEthernet2/16.2
description Voice edge VLAN
encapsulation dot1Q 215
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/16.3
description HSD edge VLAN
encapsulation dot1Q 375
xconnect 1.1.254.1 375 encapsulation mpls
!
interface GigabitEthernet2/17
description 802.1q Interface To Ericsson DSLAM-17
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/17.1
description Video edge VLAN
encapsulation dot1Q 116
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/17.2
description Voice edge VLAN
encapsulation dot1Q 216
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/17.3
description HSD edge VLAN
encapsulation dot1Q 376
xconnect 1.1.254.1 376 encapsulation mpls

```

```

!
interface GigabitEthernet2/18
  description 802.1q Interface To Ericsson DSLAM-18
  no ip address
  wrp-queue bandwidth 64 255 0
  wrp-queue queue-limit 40 50 0
  wrp-queue threshold 2 80 100 100 100 100 100 100 100
  wrp-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrp-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrp-queue random-detect 2
  wrp-queue cos-map 1 1 0 1
  wrp-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/18.1
  description Video edge VLAN
  encapsulation dot1Q 117
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/18.2
  description Voice edge VLAN
  encapsulation dot1Q 217
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP
!
interface GigabitEthernet2/18.3
  description HSD edge VLAN
  encapsulation dot1Q 377
  xconnect 1.1.254.1 377 encapsulation mpls
!
interface GigabitEthernet2/19
  description 802.1q Interface To Ericsson DSLAM-19
  no ip address
  wrp-queue bandwidth 64 255 0
  wrp-queue queue-limit 40 50 0
  wrp-queue threshold 2 80 100 100 100 100 100 100 100
  wrp-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
  wrp-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
  no wrp-queue random-detect 2
  wrp-queue cos-map 1 1 0 1
  wrp-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/19.1
  description Video edge VLAN
  encapsulation dot1Q 118
  ip unnumbered Loopback0
  ip helper-address 10.1.10.10
  ip pim sparse-mode
  service-policy input setDSCP
!
interface GigabitEthernet2/19.2
  description Voice edge VLAN
  encapsulation dot1Q 218
  ip unnumbered Loopback1
  ip helper-address 10.1.10.10
  service-policy input setDSCP
!
interface GigabitEthernet2/19.3
  description HSD edge VLAN
  encapsulation dot1Q 378
  xconnect 1.1.254.1 378 encapsulation mpls

```

```

!
interface GigabitEthernet2/20
description 802.1q Interface To Ericsson DSLAM-20
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/20.1
description Video edge VLAN
encapsulation dot1Q 119
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/20.2
description Voice edge VLAN
encapsulation dot1Q 219
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/20.3
description HSD edge VLAN
encapsulation dot1Q 379
xconnect 1.1.254.1 379 encapsulation mpls
!
interface GigabitEthernet2/21
description 802.1q Interface To Ericsson DSLAM-21
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/21.1
description Video edge VLAN
encapsulation dot1Q 120
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/21.2
description Voice edge VLAN
encapsulation dot1Q 220
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/21.3
description HSD edge VLAN
encapsulation dot1Q 381
xconnect 1.1.254.1 381 encapsulation mpls

```



```
!  
interface GigabitEthernet2/22  
  description Agilent 101-4  
  no ip address  
  load-interval 30  
  wrr-queue bandwidth 64 255 0  
  wrr-queue queue-limit 40 50 0  
  wrr-queue threshold 2 80 100 100 100 100 100 100 100  
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100  
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100  
  no wrr-queue random-detect 2  
  wrr-queue cos-map 1 1 0 1  
  wrr-queue cos-map 2 2 3 4 6 7  
!  
interface GigabitEthernet2/22.1  
  description Video edge VLAN  
  encapsulation dot1Q 121  
  ip unnumbered Loopback0  
  ip helper-address 10.1.10.10  
  ip pim sparse-mode  
  service-policy input setDSCP  
!  
interface GigabitEthernet2/22.2  
  description Voice edge VLAN  
  encapsulation dot1Q 221  
  ip unnumbered Loopback1  
  ip helper-address 10.1.10.10  
  service-policy input setDSCP  
!  
interface GigabitEthernet2/22.3  
  description HSD edge VLAN  
  encapsulation dot1Q 381  
  xconnect 1.1.254.1 381 encapsulation mpls  
!  
interface GigabitEthernet2/23  
  description 802.1q Interface To Ericsson DSLAM-23  
  no ip address  
  wrr-queue bandwidth 64 255 0  
  wrr-queue queue-limit 40 50 0  
  wrr-queue threshold 2 80 100 100 100 100 100 100 100  
  wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100  
  wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100  
  no wrr-queue random-detect 2  
  wrr-queue cos-map 1 1 0 1  
  wrr-queue cos-map 2 2 3 4 6 7  
!  
interface GigabitEthernet2/23.1  
  description Video edge VLAN  
  encapsulation dot1Q 122  
  ip unnumbered Loopback0  
  ip helper-address 10.1.10.10  
  ip pim sparse-mode  
  service-policy input setDSCP  
!  
interface GigabitEthernet2/23.2  
  description Voice edge VLAN  
  encapsulation dot1Q 222  
  ip unnumbered Loopback1  
  ip helper-address 10.1.10.10  
  service-policy input setDSCP  
!  
interface GigabitEthernet2/23.3  
  description HSD edge VLAN  
  encapsulation dot1Q 382
```

```

xconnect 1.1.254.1 382 encapsulation mpls
!
interface GigabitEthernet2/24
description 802.1q Interface To Ericsson DSLAM-24
no ip address
wrr-queue bandwidth 64 255 0
wrr-queue queue-limit 40 50 0
wrr-queue threshold 2 80 100 100 100 100 100 100 100
wrr-queue random-detect min-threshold 1 75 100 100 100 100 100 100 100
wrr-queue random-detect max-threshold 1 100 100 100 100 100 100 100 100
no wrr-queue random-detect 2
wrr-queue cos-map 1 1 0 1
wrr-queue cos-map 2 2 3 4 6 7
!
interface GigabitEthernet2/24.1
description Video edge VLAN
encapsulation dot1Q 123
ip unnumbered Loopback0
ip helper-address 10.1.10.10
ip pim sparse-mode
service-policy input setDSCP
!
interface GigabitEthernet2/24.2
description Voice edge VLAN
encapsulation dot1Q 223
ip unnumbered Loopback1
ip helper-address 10.1.10.10
service-policy input setDSCP
!
interface GigabitEthernet2/24.3
description HSD edge VLAN
encapsulation dot1Q 383
xconnect 1.1.254.1 383 encapsulation mpls
!
interface GigabitEthernet5/1
no ip address
shutdown
!
interface GigabitEthernet5/2
no ip address
media-type rj45
!
interface Vlan1
no ip address
shutdown
!
!
router ospf 100
router-id 10.1.1.5
ispf
log-adjacency-changes
timers throttle spf 10 100 1000
timers throttle lsa all 1 10 1000
timers lsa arrival 100
network 10.1.1.24 0.0.0.3 area 0
network 10.1.1.32 0.0.0.3 area 0
network 10.1.254.5 0.0.0.0 area 0
network 10.12.0.0 0.0.255.255 area 0
network 10.22.0.0 0.0.255.255 area 0
!
ip classless
!
no ip http server
ip pim ssm default

```

```
!  
ip access-list standard LOOPBACK  
  permit 10.1.254.0 0.0.0.255  
!  
ip access-list extended acl_VoD_and_SIP_signaling  
  permit ip any host 10.1.10.10  
  permit ip any 10.1.60.0 0.0.0.255  
  permit ip any 10.1.61.0 0.0.0.255  
  permit ip any 10.1.80.0 0.0.0.255  
  permit ip any 10.1.81.0 0.0.0.255  
ip access-list extended acl_VoIP  
  permit udp any any range 16384 32767  
  permit udp any range 16384 32767 any  
!  
logging event link-status default  
logging trap debugging  
logging 10.1.10.10  
  
!  
!  
!  
control-plane  
!  
!  
!  
dial-peer cor custom  
!  
!  
!
```

```

!
banner login ^CCC
*****
*
*   AA   RRRRRR   333333
*   AAAA  RR   RR   33
*   AA AA  RR   RR   33
*   AAAAAA RR RRR   3333
*   AAAAAA RR  RR   33
*   AA AA  RR   RR   33
*   AA AA  RR   RR  333333
*
* Switch = Catalyst7606
* Console =
* Topology = 10GE Ring
*
*****

^C
!
line con 0
  exec-timeout 0 0
  password cisco
  logging synchronous
  login
line vty 0 4
  exec-timeout 0 0
  password cisco
  logging synchronous
  login
!
scheduler runtime netinput 360
ntp clock-period 17180081
ntp update-calendar
ntp server 10.1.60.10 prefer
no cns aaa enable
end

```