



## APPENDIX **B**

# Configuring Cisco Integrated Services Routers

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This appendix contains IPv6 configuration examples for the following components on Cisco Integrated Services Routers (ISRs):

- IPv6 SIP trunks
- FXS ports
- Media termination point (MTP) resources

For additional information on IPv6 configuration, refer to the following documentation:

- *Cisco IOS Voice Command Reference*  
[http://www.cisco.com/en/US/docs/ios/voice/command/reference/vr\\_book.html](http://www.cisco.com/en/US/docs/ios/voice/command/reference/vr_book.html)
- *Cisco IOS IPv6 Command Reference*  
[http://www.cisco.com/en/US/docs/ios/ipv6/command/reference/ipv6\\_book.html](http://www.cisco.com/en/US/docs/ios/ipv6/command/reference/ipv6_book.html)

## Cisco ISR Configuration for an IPv6 SIP Trunk

```
!  
boot-start-marker  
boot system flash:c3845-adventerprisek9_ivs-mz.124-22.T  
boot-end-marker  
!  
card type t1 0 0  
card type t1 0 1  
!  
clock timezone EST -5  
clock summer-time EDT recurring  
network-clock-participate wic 0  
network-clock-participate wic 1  
!  
ip source-route  
ip cef  
!  
ipv6 unicast-routing  
ipv6 cef  
!  
isdn switch-type primary-4ess  
!  
voice service voip  
    sip
```

```

    bind control source-interface GigabitEthernet0/0
    bind media source-interface GigabitEthernet0/0
!
controller T1 0/1/1
    clock source internal
    cablelength long 0db
    pri-group timeslots 1-24
    description T1 PRI - SIP Trunk to CUCM
!
interface GigabitEthernet0/0
    ip address 101.1.0.2 255.255.255.0
    duplex full
    speed auto
    media-type rj45
    ipv6 address 2001:101:1:1::4/64
    ipv6 nd ra mtu suppress
    ipv6 ospf 1 area 0
    no keepalive
!
interface Serial0/1/1:23
    description PRI - SIP Trunk to CUCM - SIPv6 controlled
    no ip address
    encapsulation hdlc
    isdn switch-type primary-ni
    isdn protocol-emulate network
    isdn incoming-voice voice
    no cdp enable
!
router eigrp 101
    network 101.0.0.0
    no auto-summary
!
router ospf 1
    log-adjacency-changes
    network 101.0.0.0 0.255.255.255 area 0
!
ip forward-protocol nd
!
ipv6 router ospf 1
    log-adjacency-changes
!
voice-port 0/1/1:23
    description PRI Trunk
!
dial-peer voice 10 pots
    description SIP controlled PRI to CUCM
    destination-pattern 502T
    incoming called-number .
    direct-inward-dial
    port 0/1/1:23
!
dial-peer voice 100 voip
    destination-pattern .T
    session protocol sipv2
    session target ipv6: 2001:101:1::16
    dtmf-relay rtp-nte
    no vad
!
dial-peer voice 101 voip
    destination-pattern .T
    session protocol sipv2
    session target ipv6: 2001:101:1::15
    dtmf-relay rtp-nte
    no vad

```

```
!  
sip-ua  
!  
end
```

## Cisco ISR Configuration for an FXS Port

```
ip source-route  
!  
ip cef  
!  
ipv6 unicast-routing  
ipv6 cef  
!  
stcapp ccm-group 1  
stcapp  
!  
voice service voip  
!  
voice-card 0  
  dspfarm  
  dsp services dspfarm  
!  
interface GigabitEthernet0/0  
  no ip address  
  duplex full  
  speed auto  
  ipv6 address 2001:101:1:1::7/64  
  ipv6 nd ra mtu suppress  
  ipv6 ospf 1 area 0  
  no keepalive  
!  
router ospf 1  
  log-adjacency-changes  
  network 101.0.0.0 0.255.255.255 area 0  
!  
ip forward-protocol nd  
!  
ipv6 router ospf 1  
  router-id 101.1.1.7  
  log-adjacency-changes  
!  
control-plane  
!  
voice-port 0/0/0  
  timeouts ringing infinity  
!  
voice-port 0/0/1  
  timeouts ringing infinity  
!  
voice-port 0/0/2  
  timeouts ringing infinity  
!  
voice-port 0/0/3  
  timeouts ringing infinity  
!  
sccp local GigabitEthernet0/0  
sccp ccm 2001:101:1::16 identifier 3 version 7.0  
sccp ccm 2001:101:1::15 identifier 1 version 7.0  
sccp
```

```

!
sccp ccm group 1
  associate ccm 1 priority 1
  associate ccm 3 priority 3
!
dial-peer voice 1 pots
  service stcapp
  port 0/0/0
!
dial-peer voice 2 pots
  service stcapp
  port 0/0/1
!
dial-peer voice 3 pots
  service stcapp
  port 0/0/2
!
dial-peer voice 4 pots
  service stcapp
  port 0/0/3
!

```

## Cisco ISR Configuration for an MTP Resource

```

boot system flash:c2800nm-adventerprisek9_ivs-mz.124-22.T
!
network-clock-participate wic 0
!
ip source-route
ip cef
!
ipv6 unicast-routing
ipv6 cef
!
voice service voip
!
voice-card 0
  dspfarm
  dsp services dspfarm
!
interface GigabitEthernet0/0
  ip address 101.1.200.2 255.255.255.252
  duplex auto
  speed auto
  ipv6 address 2001:101:1:200::2/64
  ipv6 nd ra mtu suppress
  ipv6 ospf 1 area 0
!
interface GigabitEthernet0/1
  no ip address
  duplex auto
  speed auto
!
interface GigabitEthernet0/1.112
  description VOICE VLAN
  encapsulation dot1Q 112
  ip address 101.1.1.5 255.255.255.0
  ipv6 address 2001:101:1:1::5/64
  ipv6 nd ra mtu suppress
  ipv6 ospf 1 area 0

```

```
!  
interface GigabitEthernet0/1.120  
  description DATA VLAN  
  encapsulation dot1Q 120  
  ip address 101.1.20.5 255.255.255.0  
  ipv6 address 2001:101:1:20::5/64  
  ipv6 nd ra mtu suppress  
  ipv6 ospf 1 area 0  
!  
router eigrp 101  
  network 101.0.0.0  
  no auto-summary  
!  
router ospf 1  
  log-adjacency-changes  
  network 101.0.0.0 0.255.255.255 area 0  
!  
ip forward-protocol nd  
!  
ipv6 router ospf 1  
  log-adjacency-changes  
!  
sccp local GigabitEthernet0/1.112  
sccp ccm 101.1.0.16 identifier 2 version 7.0  
sccp ccm 101.1.0.15 identifier 1 version 7.0  
sccp ccm 2001:101:1::15 identifier 3 version 7.0  
sccp ccm 2001:101:1::16 identifier 4 version 7.0  
sccp  
!  
sccp ccm group 1  
  associate ccm 1 priority 1  
  associate ccm 2 priority 2  
  associate ccm 3 priority 3  
  associate ccm 4 priority 4  
  associate profile 1 register CONF-1  
  associate profile 2 register MTP-1  
  associate profile 3 register XCODE-1  
!  
dspfarm profile 3 transcode  
  codec g711ulaw  
  codec g711alaw  
  codec g729ar8  
  codec g729abr8  
  codec pass-through  
  codec g722-64  
  codec g729r8  
  codec ilbc  
  maximum sessions 3  
  associate application SCCP  
!  
dspfarm profile 1 conference  
  codec g711ulaw  
  codec g711alaw  
  codec g729ar8  
  codec g729abr8  
  codec g729r8  
  codec g729br8  
  maximum sessions 3  
  associate application SCCP  
!
```

```
dspfarm profile 2 mtp
  codec g711ulaw
  codec pass-through
  maximum sessions software 110
  associate application SCCP
!
```