



# CHAPTER 33

## Late-to-Early Media Internetworking

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The late-to-early media internetworking feature is supported for Session Initiation Protocol (SIP) calls. Early Media is the ability of two user agents to communicate before a call is actually established. Early Media can flow when the caller makes a media proposal on the initial call setup request and the callee responds to the offer before the call is connected. The SBC provides interoperability between SIP devices that do not provide SDP on their INVITEs and SIP devices that require SDP on INVITEs they receive. This occurs when

- An endpoint caller wants to negotiate media after the INVITE has been accepted (late media) and does not include an SDP offer on the initial INVITE
- The callee that expects an SDP offer on the initial INVITE, which it then answers with a 1XX response (early media).

The normal negotiation for media is for the caller to include an SDP offer on the initial INVITE and for the callee to accept with a 200 response. However,

- Late media is used by some endpoints, such as call agents that want to allow the callee to select the media used.
- Early media is used by some more recent endpoints that need to support media flow before the call is accepted, such as a pre-call announcement or in-band tones from a Call Hold server.

In order to interwork between a late media caller and an early media callee, the SBC sends an invite to the callee that includes an SDP offer of media. The SBC then sends appropriate messages between the caller and callee, depending on the responses from each.

The SBC supports this interworking on a per-adjacency basis. You can configure each adjacency to require late-to-early media interworking for calls made to that adjacency and/or for calls made from that adjacency.

### Feature History for Early Media

Release	Modification
ACE SBC Release 3.1.00	This feature was introduced on the Cisco 7600 series router.

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## Restrictions for Late-to-Early Media Internetworking Support

The restrictions for late-to-early media internetworking are:

- This feature applies only to SIP-to-SIP calls, it does not apply to SIP-to-H.323 interworking calls.
- This feature applies only to IPv4; you cannot use it with IPv6 addressing.
- If the caller refines the media chosen by the callee, this is sent back to the callee in a PRACK. However, if the callee attempts to refine the media again, the event is logged but it is not passed back to the caller.
- Because the SBC generates SDPs, any calls using this feature cannot use media bypass.
- The SBC only generates SDPs offering a single audio stream. If the caller and callee want to negotiate video, fax, or other media streams, they can renegotiate this after the call has been established.
- If the callee attempts to send early media either before or without sending a reliable 1XX INVITE, the SBC will drop that media; it will not reach the caller.
- The callee must not send unreliable 1XX INVITE responses because the caller would interpret them as an out-of-sequence SDP offer. For late-to-early interworking calls, the SBC sets 100rel as mandatory in order to forbid the callee from sending unreliable responses only if the caller side supports 100rel.
- Late-to-early media interworking must not be used with the Gq IMS interface. This interface does not provide the SBC with the local media address necessary to create an SDP offer (and will likely result in calls with incorrect media paths).

## Configuring Late-to-Early Media Internetworking

### SUMMARY STEPS

1. **configure**
2. **sbc** *service-name*
3. **sbe**
4. **adjacency sip** *adjacency-name*
5. **nat force-off**
6. **preferred-transport udp**
7. **redirect-mode pass-through**
8. **authentication nonce timeout** *value*
9. **signaling-address ipv4**
10. **signaling-port**
11. **remote-address ipv4**
12. **signaling-peer**

13. signaling-peer-port
14. db-location-id
15. account
16. reg-min-expiry
17. media-late-to-early-iw {incoming | outgoing}
18. attach
19. exit
20. exit
21. sip inherit profile
22. cac-policy-set
23. first-cac-table
24. first-cac-scope
25. averaging-period
26. cac-table
27. match-type
28. entry
29. match-value
30. action cac-complete
31. max-bandwidth
32. max-updates
33. max-channels
34. early-media-type
35. early-media-timeout
36. codec-restrict-to-list
37. caller-codec-list
38. callee-privacy
39. caller-privacy
40. exit
41. exit
42. complete
43. exit
44. active-cac-policy-set

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>configure</b>  <b>Example:</b> host1/Admin# configure	Enables global configuration mode.
Step 2	<b>sbc service-name</b>  <b>Example:</b> host1/Admin(config)# sbc mysbc	Enters the submode for configuring the method profile. Use the <i>service-name</i> argument to define the name of the service.
Step 3	<b>sbe</b>  <b>Example:</b> host1/Admin(config-sbc)# sbe	Enters the mode of an SBE entity within an SBC service.
Step 4	<b>adjacency sip adjacency-name</b>  <b>Example:</b> host1/Admin(config-sbc-sbe)# adjacency sip sipGW	Configures an adjacency.
Step 5	<b>nat force-off</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# nat force-off	Configures a SIP adjacency to assume that all endpoints are behind a NAT device.
Step 6	<b>preferred-transport udp</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# preferred-transport udp	Sets the preferred transport protocol for SIP signaling on an adjacency.
Step 7	<b>redirect-mode pass-through</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# redirect-mode recurse	Configures the behavior of SBC on receipt of a 3xx response to an invite from the SIP adjacency.
Step 8	<b>authentication nonce timeout value</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# authentication nonce timeout 10	Configures the authentication nonce timeout for a SIP adjacency.
Step 9	<b>signaling-address ipv4</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# signaling-address ipv4 10.10.10.10	Defines the local IPv4 signaling address of an H.323 or SIP adjacency.

	Command or Action	Purpose
Step 10	<b>signaling-port</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# signaling-port 5000	Defines the local port of signaling address of an H.323 or SIP adjacency.
Step 11	<b>remote-address ipv4</b>  <b>Example:</b> host1/Admin((config-sbc-sbe-adj-sip)# remote-address ipv4 36.36.36.20 255.255.255.0	Configures an H.323 or SIP adjacency to restrict the set of remote signaling peers that can be contacted over the adjacency to those with the given IP address prefix.
Step 12	<b>signaling-peer</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# signaling-peer gk andrew	Configures an H.323 or SIP adjacency to use the given remote signaling-peer.
Step 13	<b>signaling-peer-port</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# signaling-peer-port 123	Configures an H.323 or SIP adjacency to use the given remote signaling-peer's port.
Step 14	<b>dbe-location-id</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# dbe-location-id 1	Configures an adjacency to use a given media gateway DBE location when routing media.
Step 15	<b>account</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# account isp42	Defines a SIP or H.323 adjacency account on an SBE.
Step 16	<b>reg-min-expiry</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# reg-min-expiry 300	Configures the minimum registration period in seconds on the SIP adjacency.
Step 17	<b>media-late-to-early-iw {incoming   outgoing}</b>  <b>Example:</b> host1/Admin(config-sbe-adj-sip)# media-late-to-early-iw incoming	Configures late-to-early media interworking (iw).
Step 18	<b>attach</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# attach	Attaches an adjacency to an account on an SBE.

	Command or Action	Purpose
Step 19	<b>exit</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj-sip)# exit	Exits the current configuration mode.
Step 20	<b>exit</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-adj)# exit	Exits the current configuration mode.
Step 21	<b>sip inherit profile</b>  <b>Example:</b> host1/Admin(config-sbc-sbe)# sip inherit profile preset-p-cscf-access	Configures a global inherit profile.
Step 22	<b>cac-policy-set</b>  <b>Example:</b> host1/Admin(config-sbc-sbe)# cac-policy-set 1	Enters the submode of CAC policy set configuration within an SBE entity.
Step 23	<b>first-cac-table</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy)# first-cac-table RootCacTable	Configures the name of the first policy table to process when performing the admission control stage of policy.
Step 24	<b>first-cac-scope</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy)# first-cac-scope src-adjacency	Configures the scope at which to begin defining limits when performing the admission control stage of policy.
Step 25	<b>averaging-period</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy)# averaging-period 5	Configures the size of the averaging period used by CAC for its rate calculations.
Step 26	<b>cac-table</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy)# cac-table MyCacTable	Creates or configures an admission control table.
Step 27	<b>match-type</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable)# match-type call-priority	Configures the match type of an admission control table.

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 28</b>	<b>entry</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable)# entry 1	Creates or modifies an entry in a table.
<b>Step 29</b>	<b>match-value</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-e ntry)# match-value acme	Configures the match-value of an entry in an admission control table.
<b>Step 30</b>	<b>action cac-complete</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-e ntry)# action cac-complete	Specifies that when an event matches, this CAC policy is complete.
<b>Step 31</b>	<b>max-bandwidth</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-e ntry)# max-bandwidth 6000000	Configures the maximum bandwidth for an entry in an admission control table.
<b>Step 32</b>	<b>max-updates</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-e ntry)# max-updates 500	Configures the maximum call updates for an entry in an admission control table.
<b>Step 33</b>	<b>max-channels</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-e ntry)# max-channels 50	Configure the maximum number of channels for an entry in an admission control table.
<b>Step 34</b>	<b>early-media-type</b> { <b>backward-half-duplex</b>   <b>forward-half-duplex</b>   <b>full-duplex</b> }  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-e ntry)# early-media-type full-duplex	Configures the direction of early media to allow for an entry in a call admission control table.
<b>Step 35</b>	<b>early-media-timeout</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-e ntry)# early-media-timeout 90	Configures the amount of time for which to allow early-media before a call is established.
<b>Step 36</b>	<b>codec-restrict-to-list</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-e ntry)# codec-restrict-to-list my_codecs	Configures the CAC to restrict the codecs used in signaling a call to the set of codecs given in the named list.

	Command or Action	Purpose
Step 37	<b>caller-codec-list</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry)# caller-codec-list test	Lists the codecs that the caller leg of a call is allowed to use.
Step 38	<b>callee-privacy</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry)# callee-privacy always	Configures the level of privacy processing to perform on messages sent from callee to caller.
Step 39	<b>caller-privacy</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry)# caller-privacy always	Configures the level of privacy processing to perform on messages sent from caller to callee.
Step 40	<b>exit</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry)# exit	Exits the current configuration mode.
Step 41	<b>exit</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy)# exit	Exits the current configuration mode.
Step 42	<b>complete</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy)# complete	Completes the CAC-policy or call-policy set after committing the full set.
Step 43	<b>exit</b>  <b>Example:</b> host1/Admin(config-sbc-sbe-cacpolicy)# exit	Exits the current configuration mode.
Step 44	<b>active-cac-policy-set</b>  <b>Example:</b> host1/Admin (config-sbc-sbe)# active-cac-policy-set 1	Sets the active CAC-policy-set within an SBE entity.

## Configuration Example

The following example shows a Late-to-Early Media Internetworking configuration.

```
host1/Admin# configure
host1/Admin(config)# sbc mySbc
host1/Admin(config-sbc)# sbe
host1/Admin(config-sbc-sbe)# adjacency sip SIPP-1
host1/Admin(config-sbe-adj-sip)# nat force-off
```



```

host1/Admin(config-sbe-adj-sip) # preferred-transport udp
host1/Admin(config-sbe-adj-sip) # redirect-mode pass-through
host1/Admin(config-sbe-adj-sip) # authentication nonce timeout 300
host1/Admin(config-sbe-adj-sip) # signaling-address ipv4 201.201.201.20
host1/Admin(config-sbe-adj-sip) # signaling-port 5060
host1/Admin(config-sbe-adj-sip) # remote-address ipv4 202.202.202.11 255.255.255.255
host1/Admin(config-sbe-adj-sip) # signaling-peer 202.202.202.11
host1/Admin(config-sbe-adj-sip) # signaling-peer-port 5060
host1/Admin(config-sbe-adj-sip) # db-location-id 4294967295
host1/Admin(config-sbe-adj-sip) # account SIPP-1
host1/Admin(config-sbe-adj-sip) # reg-min-expiry 3000
host1/Admin(config-sbe-adj-sip) # media-late-to-early-iw incoming
host1/Admin(config-sbe-adj-sip) # attach
host1/Admin(config-sbe-adj-sip) # exit
host1/Admin(config-sbe-adj) # exit
host1/Admin(config-sbc-sbe) # adjacency sip SIPP-2
host1/Admin(config-sbe-adj-sip) # nat force-off
host1/Admin(config-sbe-adj-sip) # preferred-transport udp
host1/Admin(config-sbe-adj-sip) # redirect-mode pass-through
host1/Admin(config-sbe-adj-sip) # authentication nonce timeout 300
host1/Admin(config-sbe-adj-sip) # signaling-address ipv4 201.201.201.20
host1/Admin(config-sbe-adj-sip) # signaling-port 5060
host1/Admin(config-sbe-adj-sip) # remote-address ipv4 201.201.201.11 255.255.255.255
host1/Admin(config-sbe-adj-sip) # signaling-peer 201.201.201.11
host1/Admin(config-sbe-adj-sip) # signaling-peer-port 5060
host1/Admin(config-sbe-adj-sip) # db-location-id 4294967295
host1/Admin(config-sbe-adj-sip) # account SIPP-2
host1/Admin(config-sbe-adj-sip) # reg-min-expiry 3000
host1/Admin(config-sbe-adj-sip) # media-late-to-early-iw outgoing
host1/Admin(config-sbe-adj-sip) # attach
host1/Admin(config-sbe-adj-sip) # exit
host1/Admin(config-sbe-adj) # exit
host1/Admin(config-sbc-sbe) # sip inherit profile preset-core
host1/Admin(config-sbc-sbe) # cac-policy-set 1
host1/Admin(config-sbc-sbe-cacpolicy) # first-cac-table table
host1/Admin(config-sbc-sbe-cacpolicy) # first-cac-scope call
host1/Admin(config-sbc-sbe-cacpolicy) # averaging-period 60
host1/Admin(config-sbc-sbe-cacpolicy) # cac-table table
host1/Admin(config-sbc-sbe-cacpolicy-cactable) # match-type adjacency
host1/Admin(config-sbc-sbe-cacpolicy-cactable) # entry 1
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # match-value SIPP-1
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # action cac-complete
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # max-bandwidth 64009 Gbps
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # max-updates 4294967295
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # max-channels 4294967295
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # early-media-type full-duplex
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # early-media-timeout 0
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # codec-restrict-to-list
allowed_caller
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # caller-codec-list allowed_caller
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # callee-privacy never
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # caller-privacy never
host1/Admin(config-sbc-sbe-cacpolicy-cactable) # entry 2
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # match-value SIPP-2
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # action cac-complete
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # max-bandwidth 64009 Gbps
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # max-updates 4294967295
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # max-channels 4294967295
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # early-media-type full-duplex
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # early-media-timeout 0
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # codec-restrict-to-list allowed
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # callee-codec-list allowed
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # callee-privacy never
host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry) # caller-privacy never

```

```

host1/Admin(config-sbc-sbe-cacpolicy-cactable-entry)# exit
host1/Admin(config-sbc-sbe-cacpolicy-cactable)# exit
host1/Admin(config-sbc-sbe-cacpolicy)# complete
host1/Admin(config-sbc-sbe-cacpolicy)# exit
host1/Admin (config-sbc-sbe)# active-cac-policy-set 1
host1/Admin/Admin(config-sbc-sbe)# retry-limit 3
host1/Admin/Admin(config-sbc-sbe)# call-policy-set 1
host1/Admin(config-sbc-sbe-rtgppolicy)# first-call-routing-table start-table
host1/Admin(config-sbc-sbe-rtgppolicy)# rtg-src-adjacency-table start-table
host1/Admin(config-sbc-sbe-rtgppolicy-entry)# entry 1
host1/Admin(config-sbc-sbe-rtgppolicy-entry)# action complete
host1/Admin(config-sbc-sbe-rtgppolicy-entry)# dst-adjacency SIPP-1
host1/Admin(config-sbc-sbe-rtgppolicy-entry)# match-adjacency SIPP-2
host1/Admin(config-sbc-sbe-rtgppolicy-entry)# exit
host1/Admin(config-sbc-sbe-rtgppolicy)# entry 2
host1/Admin(config-sbc-sbe-rtgppolicy-entry)# action complete
host1/Admin(config-sbc-sbe-rtgppolicy-entry)# dst-adjacency SIPP-2
host1/Admin(config-sbc-sbe-rtgppolicy-entry)# match-adjacency SIPP-1
host1/Admin(config-sbc-sbe-rtgppolicy-entry)# exit
host1/Admin(config-sbc-sbe-rtgppolicy)# complete
host1/Admin(config-sbc-sbe-rtgppolicy)# exit
host1/Admin (config-sbc-sbe)# active-call-policy-set 1
host1/Admin (config-sbc-sbe)# sip max-connections 2
host1/Admin (config-sbc-sbe)# sip timer
host1/Admin (config-sbc-sbe-tmr)# tcp-idle-timeout 120000
host1/Admin (config-sbc-sbe-tmr)# tls-idle-timeout 3600000
host1/Admin (config-sbc-sbe-tmr)# udp-response-linger-period 32000
host1/Admin (config-sbc-sbe-tmr)# udp-first-retransmit-interval 500
host1/Admin (config-sbc-sbe-tmr)# udp-max-retransmit-interval 4000
host1/Admin (config-sbc-sbe-tmr)# invite-timeout 180
host1/Admin (config-sbc-sbe-tmr)# exit
host1/Admin (config-sbc-sbe)# codec-list allowed
host1/Admin(config-sbc-sbe-codec-list)# description allowed codecs
host1/Admin(config-sbc-sbe-codec-list)# codec PCMA
host1/Admin(config-sbc-sbe-codec-list)# codec PCMU
host1/Admin(config-sbc-sbe-codec-list)# exit
host1/Admin(config-sbc-sbe)# codec-list allowed_caller
host1/Admin(config-sbc-sbe-codec-list)# description caller
host1/Admin(config-sbc-sbe-codec-list)# codec PCMA
host1/Admin(config-sbc-sbe-codec-list)# exit
host1/Admin(config-sbc-sbe)# h323
host1/Admin(config-sbc-sbe-h323)# ras timeout arq 5000
host1/Admin(config-sbc-sbe-h323)# ras retry arq 2
host1/Admin(config-sbc-sbe-h323)# ras timeout brq 3000
host1/Admin(config-sbc-sbe-h323)# ras retry brq 2
host1/Admin(config-sbc-sbe-h323)# ras timeout drq 3000
host1/Admin(config-sbc-sbe-h323)# ras retry drq 2
host1/Admin(config-sbc-sbe-h323)# ras timeout grq 5000
host1/Admin(config-sbc-sbe-h323)# ras retry grq 2
host1/Admin(config-sbc-sbe-h323)# ras timeout rrq 3000
host1/Admin(config-sbc-sbe-h323)# ras retry rrq 2
host1/Admin(config-sbc-sbe-h323)# ras rrq ttl 60
host1/Admin(config-sbc-sbe-h323)# ras timeout urq 3000
host1/Admin(config-sbc-sbe-h323)# ras retry urq 1
host1/Admin(config-sbc-sbe-h323)# h225 timeout proceeding 10000
host1/Admin(config-sbc-sbe-h323)# h225 timeout establishment 180000
host1/Admin(config-sbc-sbe-h323)# h225 timeout setup 4000
host1/Admin(config-sbc-sbe-h323)# exit
host1/Admin(config-sbc-sbe)# h323
host1/Admin(config-sbc-sbe-h323)# adjacency timeout 30000
host1/Admin(config-sbc-sbe-h323)# exit
host1/Admin(config-sbc-sbe)# redirect-limit 2
host1/Admin(config-sbc-sbe)# deact-mode normal
host1/Admin(config-sbc-sbe)# activate

```

```

host1/Admin(config-sbc-sbe) # exit
host1/Admin(config-sbc) # dbe
host1/Admin(config-sbc-dbe) # media-address ipv4 201.201.201.20
host1/Admin(config-sbc-dbe) # location-id 0
host1/Admin(config-sbc-dbe) # media-timeout 9000
host1/Admin(config-sbc-dbe) # deact-mode normal
host1/Admin(config-sbc-dbe) # activate

```

## Verification

Use the following commands to verify operation:

Command	Purpose
host1/Admin# <b>show services sbc <i>sbc-name</i> sbe cac-policy-set <i>id</i> table <i>name</i> entries</b>	Lists a summary of the CAC policy tables associated with the given policy set.
host1/Admin# <b>show services sbc <i>sbc-name</i> sbe adjacencies</b>	Lists the adjacencies configured on SBES.

The following example shows adjacencies.

```

host1/Admin# show services sbc test sbe adjacencies 7600-1 de
SBC Service "test"
Adjacency 7600-1 (SIP)
  Status:                Attached
  Signaling address:    22.22.22.2:5060, VRF Admin
  Signaling-peer:      33.33.33.3:5060
  Remote address:      33.33.33.3 255.255.255.255
  Force next hop:      No
  Account:
  Group:                None
  In header profile:   Default
  Out header profile:  Default
  In method profile:   Default
  Out method profile:  Default
  In UA option prof:   Default
  Out UA option prof:  Default
  In proxy opt prof:   Default
  Out proxy opt prof:  Default
  Priority set name:    None
  Local-id:            None
  Rewrite REGISTER:    Off
  Target address:      None
  NAT Status:          Auto Detect
  Reg-min-expiry:      3000 seconds
  Fast-register:       Enabled
  Fast-register-int:   30 seconds
  Authenticated mode:  None
  Authenticated realm: None
  Auth. nonce life time: 300 seconds
  IMS visited NetID:   None
  Inherit profile:     Default
  Force next hop:      No
  Home network Id:     None
  UnEncrypt key data:  None
  SIPI passthrough:   No
  Rewrite from domain: Yes
  Rewrite to header:   Yes
  Media passthrough:   No
  Hunting Triggers:    Global Triggers

```

```

Redirect mode:          Pass-through
Outbound-flood-rate:   None
Ping-enabled:          No
Signaling Peer Status: Not Tested
media-late-to-early-iw:    incoming

```

```
host1/Admin# show services sbc test sbe adjacencies 7600-2 de
```

```

SBC Service "test"
Adjacency 7600-2 (SIP)
  Status:                Attached
  Signaling address:     22.22.22.2:5061, VRF Admin
  Signaling-peer:        44.44.44.4:5061
  Remote address:        44.44.44.4 255.255.255.255
  Force next hop:        No
  Account:
  Group:                 None
  In header profile:     Default
  Out header profile:    Default
  In method profile:     Default
  Out method profile:    Default
  In UA option prof:     Default
  Out UA option prof:    Default
  In proxy opt prof:     Default
  Out proxy opt prof:    Default
  Priority set name:     None
  Local-id:              None
  Rewrite REGISTER:      Off
  Target address:        None
  NAT Status:            Auto Detect
  Reg-min-expiry:        3000 seconds
  Fast-register:         Enabled
  Fast-register-int:     30 seconds
  Authenticated mode:    None
  Authenticated realm:   None
  Auth. nonce life time: 300 seconds
  IMS visited NetID:     None
  Inherit profile:       Default
  Force next hop:        No
  Home network Id:       None
  UnEncrypt key data:    None
  SIPI passthrough:     No
  Rewrite from domain:   Yes
  Rewrite to header:     Yes
  Media passthrough:     No
  Hunting Triggers:      Global Triggers
  Redirect mode:         Pass-through
  Outbound-flood-rate:   None
  Ping-enabled:          No
  Signaling Peer Status: Not Tested
  media-late-to-early-iw:    outgoing

```

The following command lists a summary of the CAC policy tables associated with the given policy set:

```

host1/Admin# show services sbc test sbe cac-policy-set 1 table table entry 1
SBC Service "test"
Policy set 1 table table entry 1
  Match value            SIPP-1
  Action                 CAC policy complete
  Max updates            Unlimited
  Max bandwidth          Unlimited
  Max channels           Unlimited
  Transcoder             Allowed
  Caller privacy setting Never hide
  Callee privacy setting Never hide

```

```

Early media                Allowed
Early media direction      Both
Early media timeout        0
Caller voice QoS profile   default
Caller video QoS profile   default
Caller sig QoS profile     default
Callee voice QoS profile  default
Callee video QoS profile  default
Callee sig QoS profile    default
Restrict codecs to list    allowed_caller
Restrict caller codecs to list allowed_caller
Restrict callee codecs to list default
Media bypass               Allowed
Number of calls rejected by this entry 0

```

```

host1/Admin# show services sbc test sbe cac-policy-set 1 table table entry 2
SBC Service "test"
Policy set 1 table table entry 2
Match value                SIP-2
Action                     CAC policy complete
Max updates                Unlimited
Max bandwidth              Unlimited
Max channels               Unlimited
Transcoder                 Allowed
Caller privacy setting     Never hide
Callee privacy setting    Never hide
Early media                Allowed
Early media direction      Both
Early media timeout        0
Caller voice QoS profile   default
Caller video QoS profile   default
Caller sig QoS profile     default
Callee voice QoS profile  default
Callee video QoS profile  default
Callee sig QoS profile    default
Restrict codecs to list    allowed
Restrict caller codecs to list default
Restrict callee codecs to list allowed
Media bypass               Allowed
Number of calls rejected by this entry 0
host1/Admin#

```

