

## Session Border Controller

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This chapter describes the level of support that Cisco ANA provides for Session Border Controller (SBC), as follows:

- [Technology Description, page 14-1](#)
- [Information Model Objects \(IMOs\), page 14-2](#)
- [Vendor-Specific Inventory and IMOs](#)
- [Service Alarms, page 14-20](#)

### Technology Description

Session Border Control (SBC) is an IP multimedia security and operational enhancement function for session-oriented IP services, based on SIP/H.323/H.248 signaling. It enables direct IP-to-IP interconnect between multiple administrative domains for session-based services, providing protocol interworking, security, admission control, and management. It enables direct IP-to-IP peering between service providers, and between service providers and their business and residential customers.

The most common SBC deployment is Voice over IP (VoIP) peering between service providers. Up until now, this kind of peering was done by converting IP to public switched telephone network (PSTN) and using existing PSTN peering infrastructure, but the SBC approach has experienced phenomenal growth because it saves up to 75 percent in capital expenses.

Other important SBC services include:

- **Security**—Includes topology and address hiding, theft of service prevention, protocol normalization, and Denial of Service (DoS) protection.
- **Quality of Service (QoS) demarcation**—Allows inter-service-provider service level agreements.
- **Network Address Translation (NAT) traversal**—Required in service-provider-to-enterprise scenarios.
- **Billing**—Provides enhanced current accounting records with session information such as QoS, codecs used, and so on.

SBC controls the signaling and media traffic generated during the setup, conduct, and teardown of interactive media communications. Each of its terms, in this context, has a special meaning:

- **Session**—In VoIP, a *session* is the same as a call. Each call consists of exchanges of control signals, and one or more media streams and associated data. This data can include audio, video, and other data, as well as call statistics, QoS data, and information needed for control signaling. It is this session that the SBC controls.

- **Border**—The demarcation point between one part of a network and another. One example is the firewall separating a corporate LAN from the rest of the Internet. Other example are the filtering routers, security servers, and other network elements that can separate one department within a large corporation from others in the same corporation. The SBC controls the flow of session data across these borders.
- **Controller**—The administrative functions that the SBC performs on the session data streams as they cross the borders between parts of the network. In addition to basic control functions, an SBC can provide metrics, access security, and data conversion services.

**Note**


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Cisco ANA currently provides SBC support on ASR 1000 routers only.

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## Information Model Objects (IMOs)

This section describes the following IMOs:

- [SBC Service \(ISbcService\)](#)
- [Service Border Element \(ISBE\)](#)
- [Data Border Element \(IDBE\)](#)
- [DBE Media Interface \(IDbeMediaInterface\)](#)
- [SBC Account \(ISbcAccount\)](#)
- [SBE AAA Interface \(ISbeAaaInterface\)](#)
- [SBE Billing Properties \(ISbeBillingProperties\)](#)
- [SBE Billing Instance Properties \(ISbeBillingInstanceProperties\)](#)
- [SBE RADIUS Client Properties \(ISbeRadiusClientProperty\)](#)
- [SBE RADIUS Server Properties \(ISbeRadiusServerProperties\)](#)
- [SBC Adjacency Endpoint \(ISbcAdjacencyEnd\)](#)
- [SBC Adjacency Group \(ISbcAdjacencyGroup\)](#)
- [SBC SIP Adjacency Endpoint \(ISbcSipAdjacencyEnd\)](#)
- [SBC SIP Adjacency Endpoint Authorization Realm \(ISbcSipAdjacencyEndAuthRealm\)](#)
- [SBE Configured BlackList \(ISbeConfiguredBlackList\)](#)
- [SBE Configured BlackList Entry \(ISbeConfiguredBlackListEntry\)](#)
- [SBE Current BlackList Listing \(ISbeCurrentBlacklisting\)](#)
- [SBE Codec List \(ISbeCodecList\)](#)
- [SBE Code List Entry \(ISbeCodecListEntry\)](#)
- [SBE Media Gateway \(ISbeMediaGateway\)](#)
- [DBE Media Gateway Controller \(IDbeMGC\)](#)
- [SBC H248 Control Interface \(ISbcH248ControlInterface\)](#)
- [SBE Global Hunting Trigger List \(ISbeGlobalHuntingTriggerList\)](#)
- [SBE CAC Policy Set \(ISbeCacPolicySet\)](#)
- [SBE CAC Policy Table \(ISbeCacPolicyTable\)](#)

- SBE CAC Rule Entry (ISbeCacRuleEntry)
- SBE Call Policy Set (ISbeCallPolicySet)
- SBE Call Policy Table (ISbeCallPolicyTable)
- SBE Call Policy Entry (ISbeCallRuleEntry)
- SBE Policy Set (ISbePolicySet)
- SBE Policy Table (ISbePolicyTable)
- SBE Rule Entry (ISbeRuleEntry)
- SBE SDP Match Table (ISbeSdpMatchTable)
- SBE SDP Policy Table (ISbeSdpPolicyTable)
- SBE QOS Profile (ISbeQosProfile)
- SBE SIP Header Profile (ISbeSipHeaderProfile)
- SBE SIP Header Profile Entry (ISbeSipHeaderProfileEntry)
- SBE SIP Header Profile Header (ISbeSipHeaderProfileHeader)
- SBE SIP Method Profile (ISbeSipMethodProfile)
- SBE SIP Method Profile Method (ISbeSipMethodProfileMethod)
- SBE SIP Option Profile (ISbeSipOptionProfile)
- SBE SIP Parameter Profile (ISbeSipParameterProfile)
- SBE SIP Profile (ISbeSipProfile)
- SBE SIP Timer Properties (ISbeSipTimerProperties)

## SBC Service

The **SBC Service** object represents the SBC service function running on the physical network element (usually a router service card).

**Table 14-1** SBC Service (ISbcService)

Attribute Name	Attribute Description	Scheme	Polling Interval
SBC Mode	The mode of the configured SBC service ( <i>UM, DM, UM-HA</i> )	IpCore	Configuration
Release Version	The SBC release version (for example, Release 3.0.00)	IpCore	Configuration
Application Version	The SBC application version	IpCore	Configuration
HA Status	The redundancy (high availability) status of the configured SBC service ( <i>primary, standby</i> )	IpCore	Configuration

## Service Border Element

The **Service Border Element** object represents the SBE (also known as the signaling proxy) that controls access to the network core by VoIP signaling messages. The SBE does this by acting as a Session Initiation Protocol (SIP) back-to-back user agent (B2BUA) or H.323 gateway, handling all call processing through one of these protocols. There can be only one signaling agent per service card, and the SBE will typically control one or more media gateways.

**Table 14-2 Service Border Element (ISBE)**

Attribute Name	Attribute Description	Scheme	Polling Interval
Call Redirect Limit	Maximum number of redirections performed before the call fails (2 is default, range is 0-100)	IpCore	Configuration
Onhold Timeout	Time the SBE will wait after receiving a media timeout notification from the <a href="#">Data Border Element</a> before tearing down an on-hold call.	IpCore	Configuration

## Data Border Element

The [Data Border Element](#) object represents the DBE (also known as a media control proxy) that controls access to media packets on the network by acting as an RTP proxy.

**Table 14-3 Data Border Element (IDBE)**

Attribute Name	Attribute Description	Scheme	Polling Interval
DBE Location ID	The unique location ID configured on each vDBE within a UM DBE service.	IpCore	Configuration
DBE Type	The type of DBE ( <i>DBE</i> , <i>vDBE</i> )	IpCore	Configuration

## DBE Media Interface

The [DBE Media Interface](#) object represents either the pool of IPv4 network addresses that can be used by the DBE as local media addresses, or an interface defined on the DBE that is used for RTP packets.

**Table 14-4 DBE Media Interface (IDbeMediaInterface)**

Attribute Name	Attribute Description	Scheme	Polling Interval
Address Range	The defined range of addresses in the pool.	IpCore	Status
VRF Name	The VRF to which this interface is assigned.	IpCore	Status
Managed By	The unit managing this media interface, DBE or Media Gateway Controller.	IpCore	Status
Port Range Upper	The upper port range for the interface.	IpCore	Status
Port Range Lower	The lower port range for the interface.	IpCore	Status
Service Class	The class of service (CoS) affinity for the port range. The set of CoS is consistent with those used for QoS packet marking, and consists of voice and video.	IpCore	Status
Status	Status of the interface ( <i>active</i> , <i>inactive</i> ).	IpCore	Status
NAT Mode	The configured traversal mode for network address and port translation ( <i>twice-napt</i> , <i>twice-nat</i> ).	IpCore	Status
Termination	The ID of the interface termination point.	IpCore	Status

## SBC Account

The [SBC Account](#) object represents the service relationship with the remote organization on the SBE, with which the SBC interacts.

**Table 14-5** *SBC Account (ISbcAccount)*

Attribute Name	Attribute Description	Scheme	Polling Interval
Name	The SBC account name.	IpCore	Configuration
Adjacency List	User-defined signaling adjacencies which connect the SBC to devices within the remote-side organization.	IpCore	Configuration

## SBE AAA Interface

The [SBE AAA Interface](#) object represents the SBE interface used to supply authentication, authorization, and accounting (AAA) subscriber services to the SBC.

**Table 14-6** *SBE AAA Interface (ISbeAaaInterface)*

Attribute Name	Attribute Description	Scheme	Polling Interval
Network ID	The arbitrary SBE interface identifier (from 0-99999).	IpCore	Status
VRF	The VRF to which this SBE interface is assigned.	IpCore	Status
AAA Address	IP address of the AAA interface.	IpCore	Configuration
instanceName	Name of this AAA interface.	IpCore	Configuration

## SBE Billing Properties

The [SBE Billing Properties](#) object represents all billing properties for an [SBC Account](#).

**Table 14-7** SBE Billing Properties (*ISbeBillingProperties*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Check Time	The local time of day (up to 23:59) at which to run the long-duration record check for 24-hour billing reporting.	IpCore	Configuration
Administrative Status	Administrative status ( <i>Unknown, Up, Down</i> )	IpCore	Configuration
Operational Status	Operational status ( <i>Unknown, Up, Down</i> )	IpCore	Configuration
instanceName	Name of this billing instance.	IpCore	Configuration
Local Billing Address	The IP address of the local SBE billing address. This can be different from the AAA local address. It is the address stored in bill records.	IpCore	Configuration

## SBE Billing Instance Properties

The [SBE Billing Instance Properties](#) object represents a single SBE billing record.

**Table 14-8** SBE Billing Instance Properties (*ISbeBillingInstanceProperties*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Instance Number	ID number of the billing instance.	IpCore	Configuration
Billing Method	The billing method.	IpCore	Configuration
Local Billing Address	The IP address of the local SBE billing address. This can be different from the AAA local address. It is the address stored in bill records.	IpCore	Configuration
Check Time	The local time of day (up to 23:59) at which to run the long-duration record check for 24-hour billing reporting.	IpCore	Configuration
Batch Size	Batch size.	IpCore	Configuration
Batch Time	Batch time.	IpCore	Configuration
Deactivation Mode	Description of how this billing instance is to be deactivated (for example, <i>normal</i> ).	IpCore	Configuration
RADIUS Client	The name of the configured RADIUS accounting client for this billing instance.	IpCore	Configuration
Active Calls	The number of currently active calls logged against the billing instance.	IpCore	Configuration
Operational Status	Operational status ( <i>Unknown, Up, Down</i> )	IpCore	Configuration
Transport Status	Transport status	IpCore	Configuration
Administrative Status	Administrative status ( <i>Unknown, Up, Down</i> )	IpCore	Configuration

## SBE RADIUS Client Properties

The [SBE RADIUS Client Properties](#) object stores the properties associated with the RADIUS client which the SBE uses to access AAA services.

**Table 14-9** SBE RADIUS Client Properties (*ISbeRadiusClientProperty*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Name	Name of the RADIUS accounting client.	IpCore	Configuration
SBE Retry Interval	Interval at which the SBE resends accounting requests to the RADIUS server.	IpCore	Configuration
Client Type	The type of RADIUS client ( <i>accounting, authentication</i> ).	IpCore	Configuration
SBE Concurrent Request Limit	Total number of concurrent client requests configured.	IpCore	Configuration
SBE Retry Limit	Total number of retries for a single accounting request.	IpCore	Configuration

## SBE RADIUS Server Properties

The [SBE RADIUS Server Properties](#) object stores properties associated with the RADIUS server as viewed by the AAA client.

**Table 14-10** SBE RADIUS Server Properties (*ISbeRadiusServerProperties*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Server Priority	The priority of the accounting server. The priority determines which of the configured servers is selected as the default server and where all requests are sent. A RADIUS client contacts the RADIUS servers sequentially, in order of priority, to establish an active RADIUS session. Each RADIUS client sends call detail records to the currently active RADIUS server. The priority must be in the range 1-10 (highest to lowest priority).	IpCore	Configuration
Server Key	The RADIUS accounting server authentication key or shared secret.	IpCore	Configuration
Port Number	The port number on which the server connects to the RADIUS server.	IpCore	Configuration
RADIUS Mode	The RADIUS mode ( <i>remote, local</i> ).	IpCore	Configuration
Remote Access Point	The IP address of the remote RADIUS server.	IpCore	Configuration

## SBC Adjacency Endpoint

The [SBC SIP Adjacency Endpoint](#) object represents a signaling relationship between a local and a remote call agent. There is one adjacency defined per call agent. The adjacency defines protocol-specific parameters as well as admission control and routing policy. The SBC adjacency includes SIP and H.323 adjacencies (R4 supports SIP adjacencies only).

**Table 14-11** SBC Adjacency Endpoint (*ISbcAdjacencyEnd*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Description	Description of this adjacency.	IpCore	Configuration
Subnet Restriction	The configured IP address prefix restricting the set of remote signaling peers that can be contacted over this adjacency.	IpCore	Configuration
Media Passthrough	Permit media traffic to bypass the DBE ( <i>true, false</i> ).	IpCore	Configuration
Hunting Trigger Disabled	Enables or disables the hunting trigger on this adjacency.	IpCore	Configuration
Hunting Triggers	The list of hunting triggers associated with this adjacency.	IpCore	Configuration
VRF	The VRF with which this adjacency is associated.	IpCore	Configuration
Local Signaling Address	The logical IP address of this adjacency.	IpCore	Configuration
Remote Signaling Address	The signaling peer.	IpCore	Configuration
Local Signaling Port	The port used by this adjacency.	IpCore	Configuration
Remote Signaling Port	The port of the signaling peer.	IpCore	Configuration
Operational Status	Operational status of the adjacency ( <i>attach, detach</i> ).	IpCore	Configuration
SBC Account	The <a href="#">SBC Account</a> associated with this adjacency.	IpCore	Configuration
Instance Name	The name of this adjacency.	IpCore	Configuration
Transport Protocol	The Layer 4 protocol this adjacency uses.	IpCore	Configuration

## SBC Adjacency Group

The [SBC Adjacency Group](#) object represents a list of adjacencies. Adjacency groups permit operators to enable and disable features on a group basis instead of per adjacency.

**Table 14-12** SBC Adjacency Group (*ISbcAdjacencyGroup*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Name	The name of the adjacency group.	IpCore	Configuration
Adjacency List	The list of adjacencies in the named group.	IpCore	Configuration



## SBC SIP Adjacency Endpoint

The [SBC SIP Adjacency Endpoint](#) object represents the same relationship as [SBC Adjacency Endpoint](#) but for a SIP adjacency only.

**Table 14-13** SBC SIP Adjacency Endpoint (*ISbcSipAdjacencyEnd*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Preferred Transport	The preferred transport to use. If the preferred transport is not available, another supported transport will be used.	IpCore	Configuration
Registration Target Address	The IP address of the SIP register server.	IpCore	Configuration
Registration Target Port	The port number of the SIP register server.	IpCore	Configuration

## SBC SIP Adjacency Endpoint Authorization Realm

The [SBC SIP Adjacency Endpoint Authorization Realm](#) object represents a set of authentication credentials for a specified domain and adjacency.

**Table 14-14** SBC SIP Adjacency Endpoint Authorization Realm (*ISbcSipAdjacencyEndAuthRealm*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Domain	The name of the domain for which the authentication credentials are valid.	IpCore	Status
Username	The username that identifies the SBC in the specified domain.	IpCore	Status
Password	The password used to authenticate the username in the specified domain.	IpCore	Status

## SBE Configured BlackList

The [SBE Configured BlackList](#) object represents a source to which one or more instances of [SBE Configured BlackList Entry](#) applies. The source can be broad or narrow, depending on the defined combination of IP address, port, VPN, and port type.

**Table 14-15** SBE Configured BlackList (*ISbeConfiguredBlackList*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Black List Type	The type of source to which this blacklist applies.	IpCore	Configuration
Instance Name	The name of this source.	IpCore	Configuration

## SBE Configured BlackList Entry

The [SBE Configured BlackList Entry](#) object represents a set of specific blacklisting actions that are taken when events of a specified type are received from sources defined in one or more instances of [SBE Configured BlackList](#).

**Table 14-16** SBE Configured BlackList Entry (*ISbeConfiguredBlackListEntry*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Event Type	The type of event to which this limit applies.	IpCore	Configuration
Trigger Size	The number of events from the specified source that are allowed before blacklisting is triggered and all packets from the source are blocked.	IpCore	Configuration
Trigger Period	The period of time during which events will be considered as candidates for blacklisting triggers.	IpCore	Configuration
Blacklisting Period	The length of time during which packets from the source are blocked after the configured limits are exceeded.	IpCore	Configuration
Default Blacklisting Period	Identifies whether the specified blacklisting period is the default.	IpCore	Configuration
Default Trigger Size	Identifies whether the specified trigger size is the default.	IpCore	Configuration
Default Trigger Period	Identifies whether the specified trigger period is the default.	IpCore	Configuration

## SBE Current BlackList Listing

The [SBE Current BlackList Listing](#) object represents a set of limits currently in effect against one or more blacklisted sources defined in one or more instances of [SBE Configured BlackList](#).

**Table 14-17** SBE Current BlackList Listing (*ISbeCurrentBlacklisting*)

Attribute Name	Attribute Description	Scheme	Polling Interval
Source Address	The IP address of a blacklisted source.	IpCore	Configuration
All Source Addresses	Indicates whether Source Address applies to only one or to all sources. If <i>true</i> , ignore the value in Source Address.	IpCore	Configuration
Source Port Type	The port type of the blacklisted sources.	IpCore	Configuration
Source Port Number	The port number of the blacklisted sources.	IpCore	Configuration
Time Remaining	The time remaining until the blacklist will be removed ( <i>hh:mm:ss</i> ).	IpCore	Configuration
Event Type	The type of blacklisted event.	IpCore	Configuration
Blacklist Type	The type of source to which this blacklist applies.	IpCore	Configuration

## SBE Codec List

The [SBE Codec List](#) object defines a list of allowed codecs (a whitelist) that can be applied via a Call Admission Control (CAC) policy.

**Table 14-18** *SBE Codec List (ISbeCodecList)*

Attribute Name	Attribute Description	Scheme	Polling Interval
Name	The name of the list of allowed codecs.	IpCore	Configuration

## SBE Codec List Entry

The [SBE Codec List Entry](#) object represents an entry in the [SBE Codec List](#).

**Table 14-19** *SBE Code List Entry (ISbeCodecListEntry)*

Attribute Name	Attribute Description	Scheme	Polling Interval
minPacketizationPeriod	The minimum packetization period.	IpCore	Configuration
codecName	The name of the allowed codec to which the minimum packetization period applies.	IpCore	Configuration

## SBE Media Gateway

The [SBE Media Gateway](#) object represents properties for the SBC/SBE side of the H.248 interface.

**Table 14-20** *SBE Media Gateway (ISbeMediaGateway)*

Attribute Name	Attribute Description	Scheme	Polling Interval
codecList	Comma-separated list of codecs supported on the H.248 link.	IpCore	Configuration
ipAddress	IP address	IpCore	Configuration

## DBE Media Gateway Controller

The [DBE Media Gateway Controller](#) object represents properties for the DBE side of the H.248 interface.

**Table 14-21** *DBE Media Gateway Controller (IDbeMGC)*

Attribute Name	Attribute Description	Scheme	Polling Interval
remoteIP	The remote IP address.	IpCore	Configuration
remotePort	The remote port number.	IpCore	Configuration
transport	The transport protocol used.	IpCore	Configuration
Index	Identifies the index number of the DBE Media Gateway Controller.	IpCore	Configuration

## SBC H248 Control Interface

The [SBC H248 Control Interface](#) object represents the H.248 interface used for signaling between the SBE and DBE in distributed mode, and between an SBE and a transcoding media gateway.

**Table 14-22** SBC H248 Control Interface (*ISbcH248ControllInterface*)

Attribute Name	Attribute Description	Scheme	Polling Interval
ipAddress	IP address of the remote Media Gateway for an SBE, and the associated Media Gateway Controller for a DBE.	IpCore	Configuration
transport	The transport protocol used.	IpCore	Configuration
port	The port number.	IpCore	Configuration
Association	The media gateway associated with this H.248 control interface.	IpCore	Configuration

## SBE Global Hunting Trigger List

The [SBE Global Hunting Trigger List](#) object represents a list of hunting triggers defined globally for SBCs. Hunting triggers enable SBCs to hunt for other route or destination adjacencies when normal routes fail.

**Table 14-23** SBE Global Hunting Trigger List (*ISbeGlobalHuntingTriggerList*)

Attribute Name	Attribute Description	Scheme	Polling Interval
huntingMode	SIP hunting triggers.	IpCore	Status
huntingTriggers	The list of hunting triggers.	IpCore	Status

## SBE CAC Policy Set

The [SBE CAC Policy Set](#) object represents a set of SBE Call Admission Control (CAC) policy rules. These rules permit application-level policy control over how VoIP call admission requests are processed.

**Table 14-24** SBE CAC Policy Set (*ISbeCacPolicySet*)

Attribute Name	Attribute Description	Scheme	Polling Interval
firstScope	First call table scope of this policy set.	IpCore	Configuration
firstTable	The first CAC table used by this policy set.	IpCore	Configuration
Description	Description of the policy set.	IpCore	Configuration
Status	Status of the policy set ( <i>active, inactive</i> ).	IpCore	Configuration

## SBE CAC Policy Table

The [SBE CAC Policy Table](#) object represents a table containing instances of [SBE CAC Rule Entry](#).

**Table 14-25** SBE CAC Policy Table (*ISbeCacPolicyTable*)

Attribute Name	Attribute Description	Scheme	Polling Interval
instanceName	Name of the table	IpCore	Configuration
instanceDescription	Description of the table	IpCore	Configuration
matchType	List of event types to match on	IpCore	Configuration

## SBE CAC Rule Entry

The [SBE CAC Rule Entry](#) object represents an entry in a [SBE CAC Policy Table](#).

**Table 14-26** SBE CAC Rule Entry (*ISbeCacRuleEntry*)

Attribute Name	Attribute Description	Scheme	Polling Interval
scope	The scope of the entry.	IpCore	Configuration
nextPolicyTable	The next CAC policy table to be evaluated in the chain.	IpCore	Configuration

## SBE Call Policy Set

The [SBE Call Policy Set](#) object represents a set of SBE call policy rules. These rules permit application-level policy control over how in-call VoIP signaling and media are processed.

**Table 14-27** SBE Call Policy Set (*ISbeCallPolicySet*)

Attribute Name	Attribute Description	Scheme	Polling Interval
isActive	Indicates if the policy set is <i>active</i> or <i>inactive</i> .	IpCore	Configuration
policySetNumber	The ID number of the policy set.	IpCore	Configuration
name	The name of the policy set.	IpCore	Configuration
description	The description of the policy set.	IpCore	Configuration
firstCallTable	The first call table used by this policy set.	IpCore	Configuration

## SBE Call Policy Table

The [SBE Call Policy Table](#) object represents a table containing instances of [SBE Call Policy Entry](#).

**Table 14-28** SBE Call Policy Table (*ISbeCallPolicyTable*)

Attribute Name	Attribute Description	Scheme	Polling Interval
instanceName	Name of the call policy table.	IpCore	Configuration
instanceDescription	Description of the call policy table.	IpCore	Configuration
matchType	The type of call events to match on.	IpCore	Configuration

## SBE Call Policy Entry

The [SBE Call Policy Entry](#) object represents an entry in a [SBE CAC Policy Table](#).

**Table 14-29** SBE Call Policy Entry (*ISbeCallRuleEntry*)

Attribute Name	Attribute Description	Scheme	Polling Interval
entryNumber	ID number of the Call policy entry.	IpCore	Configuration
action	Action to be taken on a match.	IpCore	Configuration
matchValue	The event to match on.	IpCore	Configuration
entryCategory	The policy entry category.	IpCore	Configuration

## SBE Policy Set

The [SBE Policy Set](#) object represents a group of policies that can be active on the SBC at any one time.

**Table 14-30** SBE Policy Set (*ISbePolicySet*)

Attribute Name	Attribute Description	Scheme	Polling Interval
isActive	Indicates whether the policy set is active or inactive.	IpCore	Configuration
policySetNumber	ID number of the SBE policy set.	IpCore	Configuration
name	Name of the SBE policy set.	IpCore	Configuration
description	Description of the SBE policy set.	IpCore	Configuration

## SBE Policy Table

The [SBE Policy Table](#) object represents a table of instances of [SBE Rule Entry](#). It is an abstract class that contains attributes common to both call policy and CAC policy rules.

**Table 14-31** SBE Policy Table (*ISbePolicyTable*)

Attribute Name	Attribute Description	Scheme	Polling Interval
matchType	The criteria used to select an <a href="#">SBE Rule Entry</a> from the table.	IpCore	Configuration
name	The name of the SBE policy table.	IpCore	Configuration
description	Description of the SBE policy table.	IpCore	Configuration

## SBE Rule Entry

The [SBE Rule Entry](#) object represents an entry in [SBE Policy Table](#). It is abstract class that contains attributes common to both Call and CAC policy rules.

**Table 14-32** SBE Rule Entry (*ISbeRuleEntry*)

Attribute Name	Attribute Description	Scheme	Polling Interval
entryNumber	The entry's ID number in the <a href="#">SBE Policy Table</a> .	IpCore	Configuration
action	The action to be performed if the entry's matchValue matches the matchType in the <a href="#">SBE Policy Table</a> .	IpCore	Configuration
matchValue	The value to be matched against the matchType in the <a href="#">SBE Policy Table</a> .	IpCore	Configuration
entryCategory	The category of the entry in the number analysis table.	IpCore	Configuration
instanceName	The name of this entry.	IpCore	Configuration
dstAdjacency	The destination adjacency of this entry.	IpCore	Configuration
matchAdjacency	The adjacency to which this entry relates.	IpCore	Configuration
SbeAccount	The account to which this entry relates.	IpCore	Configuration
MatchAdjacencyGroup	The adjacency group to which this entry relates.	IpCore	Configuration

## SBE SDP Match Table

The [SBE SDP Match Table](#) object represents a table of strings used in event and policy matching.

**Table 14-33** SBE SDP Match Table (*ISbeSdpMatchTable*)

Attribute Name	Attribute Description	Scheme	Polling Interval
tableType	The type of table.	IpCore	Status
matchStrings	The list of strings to match on.	IpCore	Status

## SBE SDP Policy Table

The [SBE SDP Policy Table](#) object represents a table of the SBE/SBC policies.

**Table 14-34** SBE SDP Policy Table (*ISbeSdpPolicyTable*)

Attribute Name	Attribute Description	Scheme	Polling Interval
name	Name of the policy table	IpCore	Status

## SBE QOS Profile

The [SBE QOS Profile](#) object represents a defined quality-of-service profile used by CAC policies. These policies are used exclusively for marking packets.

**Table 14-35** SBE QOS Profile (*ISbeQosProfile*)

Attribute Name	Attribute Description	Scheme	Polling Interval
classOfService	The type of call to which this QoS profile will be applied (for example, <i>voice, video, fax, signaling</i> ).	IpCore	Configuration
markingType	The type of marking: DSCP or IP precedence.	IpCore	Configuration
dscp	DSCP value.	IpCore	Configuration
ipPrecedence	IP precedence value.	IpCore	Configuration
tos	Terms of Service (ToS) value.	IpCore	Configuration

## SBE SIP Header Profile

The [SBE SIP Header Profile](#) object represents an instance of a SIP header profile, used to control which SIP message requests are accepted (whitelist) or rejected (blacklist) on the SBE.

**Table 14-36** SBE SIP Header Profile (*ISbeSipHeaderProfile*)

Attribute Name	Attribute Description	Scheme	Polling Interval
instanceName	Name of the SIP header profile.	IpCore	Configuration
isInUse	Flag indicating whether the profile is in use.	IpCore	Configuration
profileType	The profile type ( <i>blacklist</i> ; profiles are whitelists by default).	IpCore	Configuration
description	Description of the profile.	IpCore	Configuration



## SBE SIP Header Profile Entry

The [SBE SIP Header Profile Entry](#) object represents an entry in the [SBE SIP Header Profile](#).

**Table 14-37** SBE SIP Header Profile Entry (*ISbeSipHeaderProfileEntry*)

Attribute Name	Attribute Description	Scheme	Polling Interval
entryNr	ID number of the entry	IpCore	Configuration
action	The action to be taken when there is a match on the value and conditions	IpCore	Configuration
value	Value in the SIP message to be matched on	IpCore	Configuration
conditions	Condition in the SIP message to be matched on	IpCore	Configuration
parameterProfile	Parameter profile	IpCore	Configuration

## SBE SIP Header Profile Header

The [SBE SIP Header Profile Header](#) object is an abstract class representing a header on the [SBE SIP Header Profile](#).

**Table 14-38** SBE SIP Header Profile Header (*ISbeSipHeaderProfileHeader*)

Attribute Name	Attribute Description	Scheme	Polling Interval
name	Name of the <a href="#">SBE SIP Header Profile</a>	IpCore	Configuration

## SBE SIP Method Profile

The [SBE SIP Method Profile](#) object specifies how methods for the corresponding [SBE SIP Header Profile](#) will be applied.

**Table 14-39** SBE SIP Method Profile (*ISbeSipMethodProfile*)

Attribute Name	Attribute Description	Scheme	Polling Interval
isPassthrough	If <i>true</i> , permits message bodies to be passed through for non vital messages accepted by the profile. If <i>false</i> , strips the message body out of any non vital SIP messages matched by the profile.	IpCore	Configuration

## SBE SIP Method Profile Method

The [SBE SIP Method Profile](#) object stores the method strings that form the whitelist or blacklist [SBE SIP Header Profile](#).

**Table 14-40** *SBE SIP Method Profile Method (ISbeSipMethodProfileMethod)*

Attribute Name	Attribute Description	Scheme	Polling Interval
instanceName	Name of the method.	IpCore	Configuration
action	The action to be performed by the method strings.	IpCore	Configuration
mapStatusCode	The map status code.	IpCore	Configuration
headerProfile	The corresponding <a href="#">SBE SIP Header Profile</a> for this method.	IpCore	Configuration
parameterProfile	The corresponding <a href="#">SBE SIP Parameter Profile</a> for this method.	IpCore	Configuration

## SBE SIP Option Profile

The [SBE SIP Option Profile](#) object stores the option strings that form a SIP Option profile whitelist or blacklist.

**Table 14-41** *SBE SIP Option Profile (ISbeSipOptionProfile)*

Attribute Name	Attribute Description	Scheme	Polling Interval
options	The option strings that form the whitelist or blacklist.	IpCore	Configuration

## SBE SIP Parameter Profile

The [SBE SIP Parameter Profile](#) object stores the parameters that form a SIP parameter profile whitelist or blacklist.

**Table 14-42** *SBE SIP Parameter Profile (ISbeSipParameterProfile)*

Attribute Name	Attribute Description	Scheme	Polling Interval
parameters	The parameter strings that form the whitelist or blacklist.	IpCore	Configuration

## SBE SIP Profile

The [SBE SIP Profile](#) is an abstract class representing SIP Header, Option, and Method profiles.

**Table 14-43** *SBE SIP Profile (ISbeSipProfile)*

Attribute Name	Attribute Description	Scheme	Polling Interval
instanceName	Name of the profile.	IpCore	Configuration
isInUse	Flag indicating whether it is in use.	IpCore	Configuration
profileType	The profile type.	IpCore	Configuration
description	Profile description.	IpCore	Configuration

## SBE SIP Timer Properties

The [SBE SIP Timer Properties](#) object represents a SIP Timer. Users can configure SIP timers to permit performance tuning of network elements participating in SBC traffic.

**Table 14-44** SBE SIP Timer Properties (*ISbeSipTimerProperties*)

Attribute Name	Attribute Description	Scheme	Polling Interval
tcpConnectTimeout	Time (in milliseconds) the SBC waits for a SIP TCP connection to a remote peer to complete before failing the connection. The default is 1000.	IpCore	Configuration
tcpIdleTimeout	Minimum time (in milliseconds) a TCP socket must remain open while not processing traffic. If the socket remains idle after that time, it can be closed. The default is two seconds.	IpCore	Configuration
tlsIdleTimeout	Transport Layer Security (TLS) idle timeout.	IpCore	Configuration
inviteTimeout	Time (in milliseconds) the SBC waits for a final response to an outbound SIP INVITE request. The default is 180 seconds. If no response is received during that time, an internal Request Timeout response is generated and returned to the caller.	IpCore	Configuration
udpFirstRetransmitInterval	Time (in milliseconds) the SBC waits for a UDP response or ACK before sending the first retransmission of the relevant signal. If the SBC keeps getting no responses, it doubles subsequent retransmission intervals each time until it reaches the udp-max-retransmit-interval duration. It will cease retransmitting the request and timeout the signal if 64 times this duration passes without the receipt of a response or ACK. The default first UDP retransmission interval is 500 milliseconds.	IpCore	Configuration
udpMaxRetransmitInterval	Maximum interval (in milliseconds) after which SBC will retransmit. The default interval is four seconds.	IpCore	Configuration
tcpConnectTimeout	Time interval (in milliseconds) over which SBC will retain negative UDP responses to INVITE requests. All subsequent retransmitted responses received within this interval will be answered with a negative ACK. Thereafter, any further retransmitted responses are ignored. The default UDP response linger period is 32 seconds.	IpCore	Configuration

## Vendor-Specific Inventory and IMOs

There are no vendor-specific inventory or IMOs for this technology.

## Network Topology

Cisco ANA does not support discovery of Network layer topology.

## Service Alarms

There are no service alarms specific to this technology.