H.248 Gateway Profile Configuration

This new feature allows you to configure gateway profile on the DBE and enable it to inter-operate with a media gateway controller (MGC/SBE). Profiles may be created to define how the H.248.1 protocol is used and what functionality is supported by a media gateway (MG). The new feature applies only to the MGC and MG H.248 interface.

Feature History for H.248 Gateway Profile Configuration

Release	Modification
Release 3.5.1	This feature was introduced on the Cisco XR 12000 Series Router and Cisco CRS-1.
Release 3.6.0	No modification.

Contents

This module contains the following sections:

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- How to Configure H.248 Gateway Profile, page SBC-412
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- Additional References, page SBC-415

Information About H.248 Gateway Profile Configuration

The gateway profile specifies the H.248.1 options to use. The gateway profile is advertised using the optional *ServiceChangeProfile* parameter in the ServiceChange message to the MGC. The ServiceChange message may look in the following way:

```
!/1 [10.100.160.2]:2944 T = 3{ C = - {sc=ROOT  { sv { v = 3 , mt = rs , re = "901 Cold
Boot",pf=SBC_GateControl/3,20060803T18401400 }  } }}
```

The DBE supports two profiles:

- Cisco profile: SBC_GateControl (parameter value: gatecontrol)
- Ia profile: ESSI_BGF (parameter value: etsi-bgf).

The Cisco profile is an internal profile compatible with Cisco SBC SBE, but sometimes incompatible with other SBEs. In order to be compatible with third-party SBEs, the DBE supports the Ia profile (defined in ETSI ES 283 018).

You can configure the profile name and version number on the DBE using a CLI command with the following two parameters:

- SrvChgProfile (case-sensitive string)
- SrvChgProfileVer (range: 1-99)

These parameters are filled in for all root-level ServiceChange messages.

The CLI command performs the following basic tasks:

- Stores profile information into the local H.248 configuration database
- Configures H.248 protocol stack with the profile information in order to send out the data via the ServiceChangeProfile parameter in the ServiceChange message to MGC

For backward compatibility, the default profile on the DBE is set to "SBC_GateControl", which executes the default DBE behavior exhibited in existing H.248 releases.

Once configured for a DBE, **SrvChgProfile** and **SrvChgProfileVer** cannot be dynamically changed for that DBE. If these values have to be changed, the DBE instance must be deleted first, and added again with the new parameters.

The Ia profile supports all the mandatory items in the ETSI ES 283 108 document.

Profile Customization

All the mandatory items in the profile are supported automatically by the DBE. However, some of the optional items can be customized in order to better inter-operate with third-party SBEs and MGCs.

Note Not all items in a profile are suitable for customization. In many cases, it is easier to define a new profile instead of customizing an existing one.

Profile Identification

Profile identification is not customizable. If the MGC (SBE) defines a new profile name and version, then the support for that profile is added instead of the old profile name and version. If the customized and mandatory requirements of a profile are incompatible, the customization is rejected.

Gateway Control Protocol Version

The Gateway Control Protocol version can be configured using a CLI command **h248-version** in the vdbe mode. The range of version number values is 2-3. The default is 2. This protocol version cannot be less than what is required by the profile.

Termination Names

The termination names are defined by the profile and are not configurable.

Transport and Security

The transport protocol (UDP, TCP) and security mechanism (Interim AH) can be customized using the following existing CLI command: **interim-auth-header**. This command provides security in the transport command

Example:

Transport udp | tcp | udp interim-auth-header | tcp interim-auth-header

```
RP/0/RP1/CPU0:sbc-drp(config-sbc-dbe-h248)#    transport ?
  tcp  Use TCP transport for H.248 signalling
  udp  Use UDP transport for H.248 signalling
RP/0/RP1/CPU0:sbc-drp(config-sbc-dbe-h248)#    transport udp ?
  interim-auth-header  Insert the interim authentication header into the H.248 m essages.
  <cr>
RP/0/RP1/CPU0:sbc-drp(config-sbc-dbe-h248)#    transport udp
Sample config:
sbc foo
 service-location preferred-active 0/3/CPU0  dbe
  vdbe
   control-address h248 ipv4 3.3.3.3
   controller h248 1
    transport udp interim-auth-header
```

Packages

The profile defines a list of mandatory and optional packages supported by the DBE. All the mandatory packages are supported by the DBE. You can configure the support for additional packages for the profile. These additional packages should come from the list of optional packages for that profile. In certain cases, other packages may also be configured to be supported in order to properly inter-operate with the MGC.

The CLI command lists only the additional packages that may need to be supported. It does not mention the mandatory packages in that profile. If certain items (properties, signals, events, or statistics) in these additional packages are not supported, then this has to be mentioned in the *Release Notes*.

The following optional packages can be enabled or disabled depending on the profile

- Inactivity (it)
- Endpoint Statistics (epstat)
- RTP (rtp)
- Middlebox or EMP (emp)
- Overload Control (ocp)
- Congestion handling (chp)
- Session Failure Reaction (sfr)
- Termination State Control (tsc)
- DTMF Detection (dd)
- DTMF Generation (dg)
- MGC Information (mgcinfo)
- Extended VPN Discrimination (evpnd)

- Segmentation (seg)
- Enhanced Root (eroot)

Other Packages

Other packages in the profile that are not listed above are supported as defined in the profile and cannot be customized.

Backward Compatibility

The support for configurable profiles allows graceful upgrades from the configurations supported in the existing releases.

How to Configure H.248 Gateway Profile

This section contains the steps for configuring the H.248 gateway profile. Only Cisco profile (SBC_GateControl), and Ia profile (ETSI_BGF) are supported.

Configuring H.248 Gateway Profile

SUMMARY STEPS

1. **configure**
2. **sbc** *service-name*
3. **dbe**
4. **vdbe**
5. **h248-profile** *profile-name*
6. **h248-profile-version** *profile-version*
7. **package** *package-name* **enable | disable**
8. **commit**
9. **exit**
10. **show services sbc** *service-name* **dbe vdbe h248-profile**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**configure** **Example:** `RP/0/0/CPU0:router# configure`	Enables the global configuration mode.
Step 2	**sbc** *service-name* **Example:** `RP/0/0/CPU0:router(config)# sbc mysbc`	Enters the mode of an SBC service. Use the *service-name* argument to define the name of the SBC.
Step 3	**dbe** **Example:** `RP/0/0/CPU0:router(config-sbc)# dbe`	Enters the mode of the data border element (DBE) function of the SBC.
Step 4	**vdbe** **Example:** `RP/0/0/CPU0:router(config-sbc-dbe)# vdbe`	Enters the mode for configuring virtual DBE (vDBE) parameters.
Step 5	**h248-profile** *profile-name* **Example:** `RP/0/0/CPU0:router(config-sbc-dbe-vdbe)# h248-profile etsi-bgf`	Configure the DBE H.248 profile name to interoperate with MGC/SBE. profile-name—Name of the H.248 profile. Only two profiles are allowed: • Cisco profile: SBC_GateControl (value: gatecontrol) • Ia profile: ESSI_BGF (value: etsi-bgf). Default is gatecontrol. The **no** version of this command does not set this configuration command. After the vDBE is configured to use the H.248 profile name, the profile name is advertised with the Service Change messages.
Step 6	**h248-profile-version** *profile-version* **Example:** `RP/0/0/CPU0:router(config-sbc-dbe-vdbe-h248-profile)# h248-profile-version 1`	Configures the vDBE H.248 profile version to interoperate with MGC/SBE. This command is used after you have defined the name of the profile using the **h248-profile** *profile-name* command. The Profile version is advertised with the Service Change messages profile-version—H.248 profile version number. Possible values are 1-3. 3 stands for gatecontrol, 1 for etsi-bgf. The Default is 3. The **no** version of this command does not set the configuration.

	Command or Action	Purpose
Step 7	**package** *package-name* **enable | disable** **Example:** `RP/0/0/CPU0:router(config-sbc-dbe-vdbe-h248-profile)# package mgcinfo enable`	Enables or disables the optional packages for vDBE to interoperate with MGC/SBE. The **no** version of this command does not set this configuration. • package-name—Specifies the names of the packages that should be enabled or disabled. The values are the following package names: aud-cap—Audit Capability package chp—Congestion Handling H248 package dtmfd—DTMF Detection H248 package dtmfg—DTMF Generation H248 package emp—Middlebox (emp) H248 package epstat—End Point Statistics H248 package eroot—Enhanced Root H248 package evpnd—Extended VPN Discrimination H248 package ginfo—GINFO H248 package mgcinfo—MGC Info H248 package ocp—Overlord Control H248 package rtp—RTP H248 package sfr—Session Failure Reaction H248 package tsc—Termination State Control H248 package These packages are disabled or enabled based on profile configuration. For the Ia profile the following packages are disabled by default: epstats, rtp, emp, chp, ocp, sfr, tsc, dtmfd, dtmfg, mgcinfo, evpnd, and eroot packages.
Step 8	**commit** **Example:** `RP/0/0/CPU0:router(config-sbc-dbe-vdbe-h248-profile)# commit`	Saves configuration changes. Use the **commit** command to save the configuration changes to the running configuration file and remain within the configuration session.

	Command or Action	Purpose
Step 9	**exit** **Example:** `RP/0/0/CPU0:router(config-sbc-dbe-vdbe-h248-profile)# commit`	Exits the current mode of the configuration.
Step 10	**show services sbc** *sbc-name* **dbe h248-profile** **Example:** `RP/0/0/CPU0:router# show services sbc mysbc dbe h248-profile`	Displays the information on the specified profile, including transport, H.248 version, and active packages.

Configuring H.248 Gateway Profile: Example of the Show Command

show services sbc my sbc dbe h248-profile

```
Transport UDP IAH
H.248 Version 3

Packages:

Generic(g)
Base Root(root): Max Terminations per context 10
Network(l)
DiffServ(ds)
Gate Management(gm)
Traffic Management(tman)
IP NAPT(ipnapt)
Segment(seg): Max PDU Size 4096 bytes
```

Additional References

The following sections provide references related to configuring H.248 gateway profile.

Related Documents

Related Topic	Document Title
Cisco IOS XR master command reference	Cisco IOS XR Master Commands List
Cisco IOS XR SBC interface configuration commands	*Cisco IOS XR Session Border Controller Command Reference*
Initial system bootup and configuration information for a router using the Cisco IOS XR Software	*Cisco IOS XR Getting Started Guide*
Cisco IOS XR command modes	*Cisco IOS XR Command Mode Reference*

Standards

Standards	Title
No new or modified standards are supported by this feature, and support from existing standards has not been modified by this feature.	—

MIBs

MIBs	MIBs Link
—	To locate and download MIBs using Cisco IOS XR software, use the Cisco MIB Locator found at the following URL and choose a platform under the Cisco Access Products menu: http://cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

Technical Assistance

Description	Link
The Cisco Technical Support website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/techsupport