



## Nine-Tier Termination Name Hierarchy

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This feature adds support for a nine-tier termination name schema, where the multi-tier prefix is supplied by the media gateway controller (MGC), and the final element, the channel ID, is generated by the media gateway (MG). All MGCs which the MG is configured to contact must use the same termination-name schema. Termination is the point of entry or exit of media flows relative to the MG. The MG understands how the flows entering and leaving each termination are related to each other.

This feature plays an important role in identifying the company, transaction service (such as voice or video), and termination attributes (such as access, backbone, etc.).

### Feature History for 9-Tier Termination Name Hierarchy

Release	Modification
Release 3.5.0	This command was first introduced on the Cisco CRS-1.
Release 3.6.0	No modification.

## Contents

This module contains the following sections:

- [Restrictions for Nine-Tier Termination Name Hierarchy, page SBC-339](#)
- [Information About Nine-Tier Termination Name Hierarchy, page SBC-340](#)
- [Displaying the Nine-Tier Termination Name Hierarchy, page SBC-340](#)
- [Displaying the Nine-Tier Termination Name Hierarchy: Example, page SBC-340](#)
- [Additional References, page SBC-341](#)

## Restrictions for Nine-Tier Termination Name Hierarchy

- Only the final element may contain the CHOOSE (\$) wildcard. The DBE will not extract any meaning from any elements of the termination ID. The exception: “ \* “ is reserved for wildcard notation.
- Multi-tier prefixes can be less than nine tiers, but must have the same depth.

# Information About Nine-Tier Termination Name Hierarchy

The MG assigns a *channel ID* that is unique across all terminations realized on the data border element (DBE). Using a unique channel ID ensures that the termination ID as a whole is unique across all terminations on the DBE. If a multi-tier prefix is not desired, the MGC may use a Choose wildcard for the termination ID, that is \$, in which case the MG allocates a prefix in the form: **ip/***<flow-id>*.

The only element within the hierarchy which may contain the CHOOSE (\$) attribute in an ADD request from the MGC is the channel element, which is the final element. The full termination name is stored persistently.

The termination naming hierarchy is extended to include nine tiers and is defined as follows:

```
<operator> / <service> / <subscriber-class> / <Reserved1> / <physical-interface-id> /
<Reserved2> / <sub-interface-id> / <termination-attribute> / <channel>
<operator> : "yourcompanyname", "east", "west", "com", "others"
<service> : "sip", "voice", "video", "vphone" (video-phone), "mon" (monitor), "others"
<subscriber-class> : "gn" (public), "ur" (priority), "ur1" (emergency)
<Reserved1> : digit (0-15)
<physical-interface-id> : digit (0-1023)
<Reserved2> : digit (0-4095)
<sub-interface-id> : digit (0-4095)
<termination-attribute> : "dc" (d.c.), "ac" (access), "bb" (backbone), "mon" (monitor)
<channel> : digit (0-4294967295)
```

## Displaying the Nine-Tier Termination Name Hierarchy

This section describes the show command for the nine-tier termination name hierarchy.

The media-flow-stats show command is extended to include the full-termination ID in the response:

```
show services sbc service-name dbe media-flow-stats [vrf global] [ipv4 A.B.C.D] [port
port-number]]
```

Syntax	Description
<pre><b>show services sbc</b> <i>service-name</i> <b>db</b>e <b>media-flow-stats</b> [<b>vrf</b> <b>global</b>] [<b>ipv4</b> <i>A.B.C.D</i>] [<b>port</b> <i>port-number</i>]]</pre> <p><b>Example:</b>  RP/0/0/CPU0:router# show services sbc my sbc db e media-flow-stats vrf vpn3 ipv4 10.1.1.1 port 24000</p>	<p>Lists the statistics about one or more media flows collected on the DBE.</p> <ul style="list-style-type: none"> <li>• <i>service-name</i>—The SBC service name</li> <li>• (Optional) <i>A.B.C.D</i>—Only display media flows to/from this IPv4 media address</li> <li>• (Optional) <i>port-number</i>—Only display media flows to/from this port</li> </ul>

## Displaying the Nine-Tier Termination Name Hierarchy: Example

This section provides an example of the reported fields for the show command displaying the nine-tier termination name hierarchy: *tcc/voice/gn/0/1/0/1/ac/2*

The entry *Media flowing = Yes* either means that media has been observed flowing on the call within media-timeout period, or the call has failed over within the last media-timeout period, and the SBC has not yet had a chance to observe whether media is flowing or not.

The statistics starting with `Rtp` are maintained and collected in real time when the command is issued. Endpoint statistics (beginning with `EndPoint`) are collected from RTCP packets transmitted by endpoints and are updated as and when these RTCP packets are received. Not all endpoints report RTCP endpoint statistics. Not all endpoints that report RTCP statistics report all the fields shown.

```
# show services sbc mysbc dbe media-flow-stats vrf vpn3 ipv4 10.1.1.1 port 24000
```

```
SBC Service "mySbc"
  mediaFlow 1
    FlowPairState Open
    GateAge 15340 ms
    CallPriority Normal
    FlowPairBandwidth 1500
    DtmfPacketsQueued 0
    ContextId 1
    StreamId 1
    Side A
      Name tcc/voice/gn/0/1/0/1/ac/1
      VpnId vpn3
      LocalAddress 10.1.1.1
      LocalPort 24000
      RemoteAddress 192.168.1.1
      RemotePort 32420
      RtpPacketsRcvd 300
      RtpOctetsRcvd 6000
      RtpPacketsSent 100
      RtpOctetsSent 2000
      RtpPacketsDiscarded 0
      RtpOctetsDiscarded 0
      EndPointPacketsSent 300
      EndPointPacketsRcvd 97
      EndPointPacketsLost 1
      DtmfInterworking No
      MediaFlowing Yes
      RouteError No
      BillingId 12AB3C4D567124C7124C12DE
    Side B
      Name tcc/voice/gn/0/1/0/1/bb/2
      VpnId <none>
      LocalAddress 10.1.1.2
      LocalPort 24002
      RemoteAddress 172.192.2.3
      RemotePort 24002
      RtpPacketsRcvd 100
      RtpOctetsRcvd 2000
      RtpPacketsSent 300
      RtpOctetsSent 6000
      RtpPacketsDiscarded 0
      RtpOctetsDiscarded 0
      EndPointPacketsSent 100
      EndPointPacketsRcvd 300
      EndPointPacketsLost 0
      DtmfInterworking No
      MediaFlowing Yes
      RouteError No
      BillingId 5DAB3C4D153624C7124E1234
```

## Additional References

The following sections provide references related to nine-tier termination name hierarchy.

## 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	<i>Cisco IOS XR Session Border Controller Command Reference</i>
Initial system bootup and configuration information for a router using the Cisco IOS XR Software	<i>Cisco IOS XR Getting Started Guide</i>
Cisco IOS XR command modes	<i>Cisco IOS XR Command Mode Reference</i>

## 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: <a href="http://cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml">http://cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml</a>

## 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.	<a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a>