



H.248 Traffic Management (Tman)

Traffic Management (Tman) package allows a media gateway controller (MGC) to use the Tman property in the H.248 message to provide the appropriate policy limits. The media gateway (MG), in turn, imposes these policy limits on the flow. By default, the DBE calculates its flow policing based on the codec information carried in the SDP (applicable for voice and video calls).

The Tman feature allows MGC to over-ride this calculation and specify the parameters explicitly. This is done using the sustainable data rate (tman/sdr) and maximum burst size (tman/mbs) fields. It is now possible to support different Tman properties in the two terminations in a stream, and do asymmetric traffic policing.

The following Tman properties are supported: pol (Policing), sdr (Sustainable Data Rate), mbs (Maximum Burst Rate), pdr (Peak Data Rate), and dvt (Delay Variation Tolerance).



Note

The SBC can asymmetrically police the flows. Tman properties may be assigned to both media and signaling flows (per termination / stream).

Feature History for H.248 Tman

| Release | Modification |
|---------------|---|
| Release 3.5.0 | This command was first introduced on the Cisco CRS-1. The pol, sdr, and mbs Tman properties are introduced. |
| Release 3.5.1 | Two new Tman properties were introduced: Peak Data Rate (pdr) and Delay Variation Tolerance (dvt). |
| Release 3.6.0 | No modification. |

Contents

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Restrictions for H.248 Tman

- Tman properties may be assigned to both media and signaling flows. The following tman properties are supported: tman/pol, tman/sdr, tman/pdr, tman/mbs and tman/dvt. Programming which sets the tman/pol flag but only specifies one of tman/sdr and tman/mbs is also rejected.
- Allowing one or more signaling flows to be unpoliced may severely impact other flows. It is possible that a single flow might use the entire bandwidth available across all flows. This results in dropped packets in all flows with subsequent loss of call quality.
- Symmetric Flow Policing Restrictions:
 - Although you can specify Tman parameters separately and differently for both sides of a gate, the DBE transforms the parameters into a single set that it uses for policing the flow in each direction. It does this even if none were specified for one side of a gate.
 - The DBE does not support different maximum bandwidths (or burst sizes) to two terminations in a gate.

Information About H.248 Tman

DBE reports support for the Tman package during the initial auditing. The supported fields (pol, sdr, pdr, mbs and dvt) are used, if present, on Megaco Add and Modify requests. If Tman fields are defined using **Add** and **Modify**, they are returned on subsequent responses to Megaco **Audit** requests.

If tman/pol has a value FALSE, the DBE interprets it as “do not police traffic flow”. This does not mean that the DBE accepts the call regardless of available bandwidth. The DBE still calculates the expected bandwidth based on TMAN sdr and mbs, if available, or the Session Description Protocol (SDP), and may fail the call if it finds the bandwidth insufficient. However, after determining that sufficient bandwidth is available, the DBE does not police traffic usage for this flow.

If you do not specify any Tman properties, the MGC calculates the required bandwidth of the media flow from the Session Description Protocol (SDP) in the local descriptor.

If tman/pol is present and has a value TRUE, the DBE does not require tman/sdr and tman/mbs to be present. If either tman/sdr or tman/mbs is present, then the other must be present as well, but the absence of both is permissible. The DBE polices traffic based on the sdr/mbs parameters or SDP as appropriate.

Explicit Policing

The tman/pol flag allows an MGC to indicate to an MG that it does not want any policing of a stream to occur. This is signaled by overriding the implicit default value of ON and setting a value of OFF on the given stream.

Explicit Leaky Bucket Parameters

By default, DBE calculates its flow-policing leaky-bucket parameters from the codec information carried in the SDP. This feature allows an MGC to override this calculation and specify which parameters to use directly. This is done using the sustainable data rate (tman/sdr) and maximum burst size (tman/mbs) fields.

**Note**

The DBE requires both tman/sdr and tman/mbs to be specified if either one is specified. An attempt to set only one of these two fields is rejected with error 421.

Since DBE tracks total packet rate as well as total bandwidth, it needs to translate the bandwidth parameters provided by the Tman package into packet rates. It does this by assuming a packetization of 10ms. This applies to both signaling and media pinholes.

Peak Data Rate

The Tman package allows an additional flow-policing parameter to be specified: the peak data rate (pdr). The pdr defines the peak data rate in bytes per second that is permitted for the stream. The DBE polices the flow to make sure it does not exceed the pdr value. The range for the pdr value is 0 through 4294967295.

Asymmetric Policing

The flexibility added by the Tman package means allows MGCs to impose different flow policing on traffic traveling in different directions on the same stream. For example, MGCs could police traffic flowing from an end-point to an internal server via the SBC, but not the reverse flow, since this flow is coming from a trusted source.

Delay Variation Tolerance

Delay Variation Tolerance (dvt) defines the delay variation tolerance for the stream in tenths of microseconds when enforcing the PDR value in the first leaky bucket. The DBE polices the dvt value in the stream and drops the packet if it exceeds tolerance value. The range for tolerance (dvt) value is 0 through 4294967295.

**Note**

If dvt or mbs are set too low, all the traffic is dropped.

Additional References

The following sections provide references related to H.248 Tman.

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> |

| Related Topic | Document Title |
|----------------------------|--|
| 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: 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 |