

Transrating Configuration

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Transrating

Transrating is a process of configuring a different packetization for a voice codec. For example, transrating G.729 20ms to G.729 30ms.

Voice Packetization

After the voice wavelength is digitized, the DSP collects the digitized data for an amount of time until there is enough data to fill the payload of a single packet.

With G.711, either 20 ms or 30 ms worth of voice is transmitted in a single packet. 20 ms worth of voice corresponds to 160 samples per packet. With 20 ms worth of voice per packet, 50 packets are created per second: 1 sec / 20 ms = 50.

The packetization rate has a direct effect on the total amount of bandwidth needed. More packets require more headers, and each header adds 40 bytes to the packet.

Codecs such as G.729 also compress the digitized output. G.729 creates a codeword for every 10 ms of voice. This “codeword” is a predefined representation of a 10-ms sample of human voice. Two codewords are contained in each packet at 50 packets per second or three codewords at 33.3 packets per second. Because the codewords need fewer bits, the overall bandwidth required is reduced.

Table 1: Packetization for different Codecs

Supported Codecs	Packetization (ms)
G.711 a-law 64 Kbps	10, 20, 30
G.711 law 64 Kbps	10, 20, 30
G.723 5.3/6/3 Kbps	30, 60
G.729, G.729A, G.729B, G.729AB 8 Kbps	10, 20, 30, 40, 50, 60

Supported Codecs	Packetization (ms)
G.722—64 Kbps	10, 20, 30

Configure Transrating for a Codec

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **dial-peer voice** *number* **voip**
4. **codec** *codec-name* **bytes** *voice-payload-size* [**fixed-bytes**]
5. **end**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device> configure terminal`	Enters global configuration mode.
Step 3	**dial-peer voice** *number* **voip** **Example:** `Device(config)# dial-peer voice 1 voip`	Enters dial peer configuration mode for the specified VoIP dial peer.
Step 4	**codec** *codec-name* **bytes** *voice-payload-size* [**fixed-bytes**] **Example:** `Device(config-dial-peer)# codec g729r8 bytes 30 fixed-byte`	Configures a different packetizations for a voice codec.
Step 5	**end** **Example:** `Device(config-dial-peer)# end`	Exits to privileged EXEC mode.