

HD Voice for Webex Calling

Unparalleled voice quality powered by artificial intelligence

When we place a call over the Public Switched Telephone Network (PSTN), we likely experience narrowband audio that “cuts” a large portion of the speech frequency spectrum resulting in decreased speech intelligibility and audio quality (Figure 1). While narrowband audio has served us well for decades, it does not provide the same level of quality or clarity that is delivered by Voice Over IP (VoIP) calls which use wideband audio.

HD Voice is an AI-based technology that simultaneously removes background noise and reconstructs the upper portion of the spectrum that is lost due to the narrowband processing, effectively converting a noisy narrowband signal into a clean wideband signal (Figure 2). The result is better speech intelligibility and overall audio quality.

Webex Calling users can apply HD Voice to calls with external parties. This means that when a Webex Calling user hears poor quality audio on the external party’s side of the call, the Webex Calling user can improve the quality of audio with HD Voice without any interaction from the external caller, even though the external caller is not a Webex Calling user.

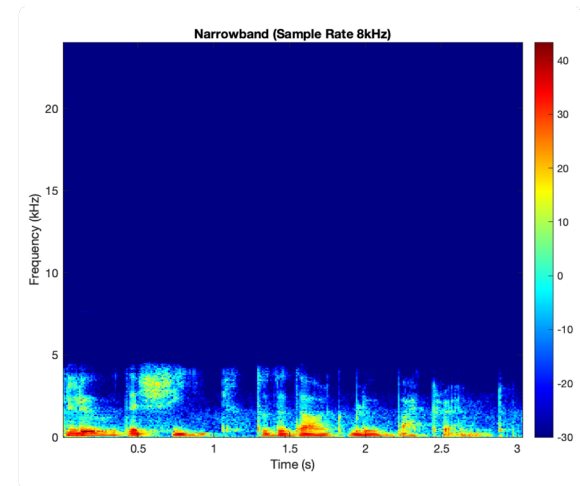


Figure 1: Narrowband PSTN audio

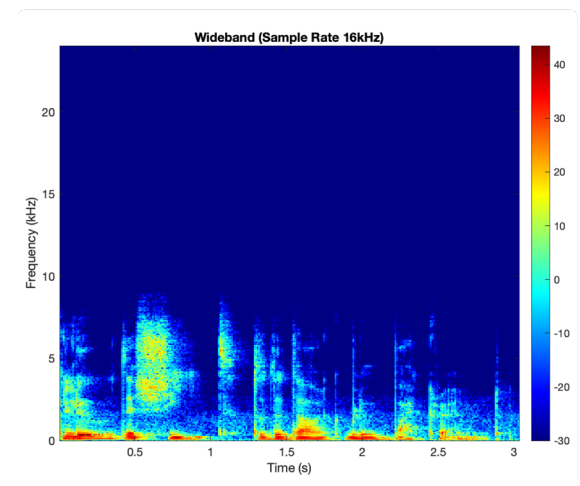


Figure 2: Narrowband audio processed with HD Voice

Benefits

Crystal clear voice

HD Voice leverages next generation generative AI technology to recreate the wideband voice spectrum

Improved productivity

Make every call more productive by ensuring that external callers are heard clearly

Enhanced agent experience

Reduce the stress and strain on your Webex Calling agents that frequently speak to external parties such as customers

No additional cost

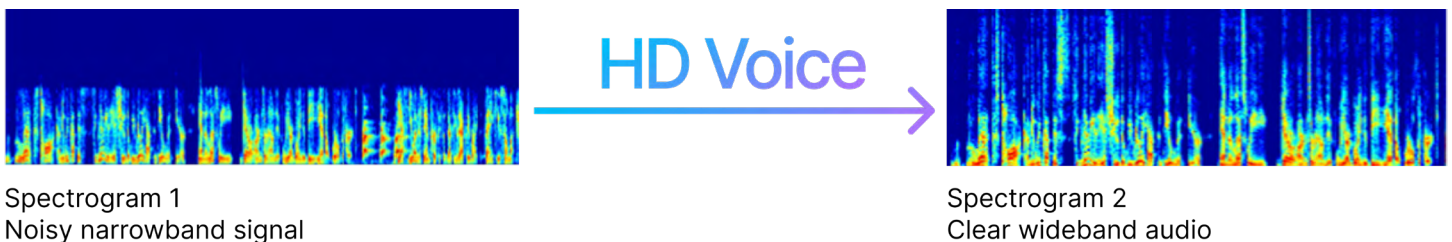
HD Voice is included for no additional fee with your Webex Calling license

HD Voice technology

HD Voice takes the narrowband speech (e.g., G.711) as input and uses AI to remove background noise and reconstruct the high-frequency portion of the speech spectrum that is lost due to the narrowband processing. Hence, the output from HD Voice is a noise-free wideband signal which includes the reconstructed spectrum. Compared to the original (Spectrogram 1), the HD Voice audio (Spectrogram 2) sounds better.

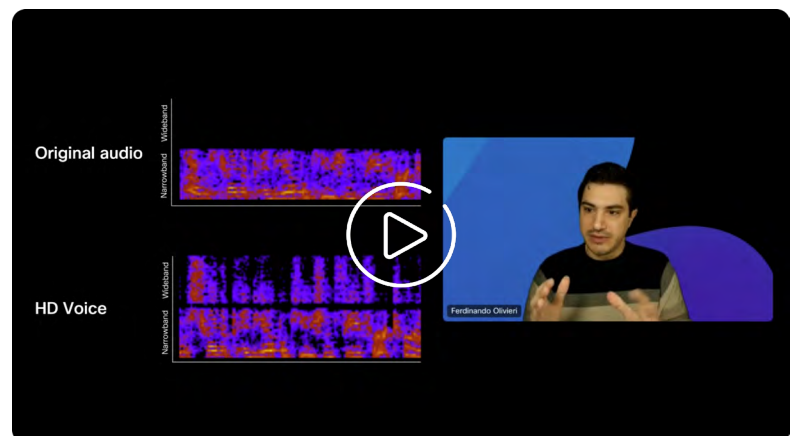
By relying on psychoacoustical principles and the power of AI, the objective of HD Voice is to blindly reconstruct the high frequency portion of the original narrowband speech without any side information. HD Voice can operate locally on the user's device or in the cloud.

We do not use user's data for the training of the HD Voice neural network. Due to this reason, HD Voice does not reconstruct the high frequencies of a specific person's voice. As an AI-based innovation, HD Voice will always adhere to [Cisco's Responsible AI Principles](#), which include Transparency, Fairness, Accountability, Privacy, Security, and Reliability.



Hear the difference

Learn more about HD Voice from Ferdinando Olivieri, Engineering Product Manager, Webex Audio AI and [hear the difference in this video](#).



November 2023



For more information about HD Voice, please visit www.webex.com/contact-sales.html or contact your account manager or partner.