



The World's Premier Supplier of Speech and Audio Codecs



Wideband telephony –

Enhancing VoIP for full-service success

By featuring **WIDEBAND TELEPHONY** enabled by AMR-WB (G.722.2) / VMR-WB in their digital telephone service offerings, service providers can deliver sound quality today beyond what's possible in the PSTN while laying the groundwork for adding wireless to their portfolio in a seamless, converged offering.

Differentiate VoIP through wideband speech quality

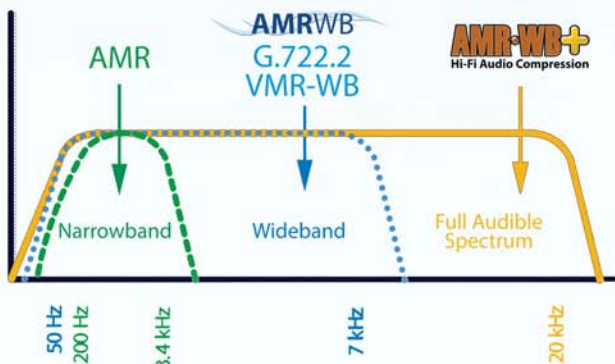
Wideband telephony greatly improves the perceived quality of telephone communications, providing more natural sound, a better sense of presence and greater intelligibility. It's a new generation of telephone quality!

Why wideband?

- Traditional telephony (narrowband ~200-3400 Hz) removes significant energy at both ends of the spectrum
- Wideband telephony effectively doubles the narrowband speech signal, providing voice quality significantly better than the best PSTN call
 - The added low frequencies from 50 to 200 Hz contribute to a sense of presence, adding increased naturalness and comfort to conversations
 - The high-frequency extension from 3400 to 7000 Hz provides much better differentiation of consonants such as /s/ and /f/, improving intelligibility
- Wideband speech communications ease speaker recognition and have been shown to reduce listener fatigue
- Wideband also delivers richer sounding audio, for example, for ringtones

The standards advantage

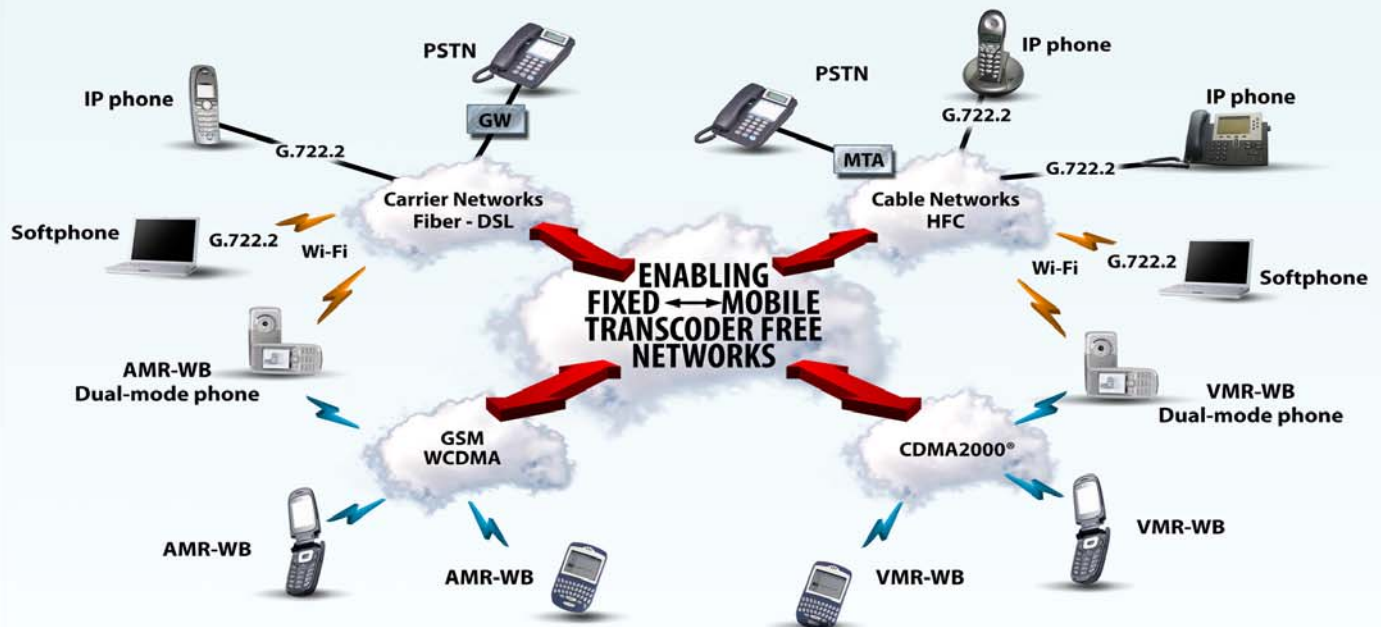
- An open, collaborative and competitive process ensures that the best technologies are chosen
- Requirements are defined by key players in the industry
- Designed for smooth evolution – e.g., AMR-WB carries narrowband signals without adding impairments
- Published algorithms and source code (both fixed and floating point)
 - Permit wider and more effective scrutiny
 - No proprietary lock-in
- Rigorous comparative testing under diverse conditions
 - Background noise types and levels
 - Spoken languages
 - Speaker types
 - Various network impairments, e.g., bit error rates, packet loss
 - Low-bandwidth environments



Rising customer quality expectations

- Wideband speech is rapidly gaining momentum
- Implemented in softphones
- IP phones designed to support it
- Deployed in
 - Broadcast solutions
 - Conferencing solutions
 - Audio books
- AMR-WB is already deployed in GSM and WCDMA networks
- Wi-Fi phones are adopting wireless codecs for interoperability

The Fully Interoperable Wideband Codec Standards AMR-WB (G.722.2) / VMR-WB



Transcoder-Free Interoperability Eliminates Costs, Latency, Impairments

AMR-WB (G.722.2) / VMR-WB wideband codecs for seamless interoperability

Standards organizations for different networks have defined a path for transcoder-free interoperability for wideband speech:

- Only AMR-WB (G.722.2) / VMR-WB interoperate transcoder free across 3GPP, 3GPP2, ITU and CableLabs networks
- AMR-WB and VMR-WB are the only wideband codecs standardized for 3GPP/3GPP2 wireless applications, and they are mandatory for wideband speech applications

This is the first time that **compatible codecs based on the same technology** have been selected to deliver wideband speech and audio services across wireline, cellular and Wi-Fi networks. By implementing AMR-WB (G.722.2) / VMR-WB, service providers can improve quality not only through the richer signal quality but also by eliminating the need for transcoding between these networks.

Choosing AMR-WB (G.722.2) / VMR-WB positions implementers strongly for evolution

Today's networks are rapidly evolving to a bold new era in seamless communications. Codecs are a crucial enabler of this transformation because they are a critical component of a positive end-user experience. Wideband speech enabled by the AMR-WB (G.722.2) / VMR-WB codecs enhances the communications experience, making it really the next best thing to being there.

Contact VoiceAge for more information on how we can help you lead this transformation.

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