



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

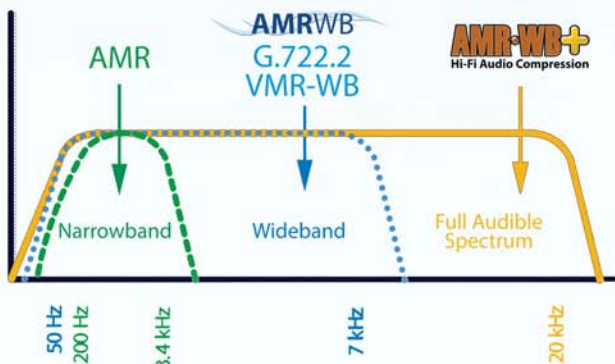
Wideband telephony greatly improves the perceived quality of telephone communications, providing more natural sound, a better sense of presence and greater intelligibility. It's a new generation of telephone quality!

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

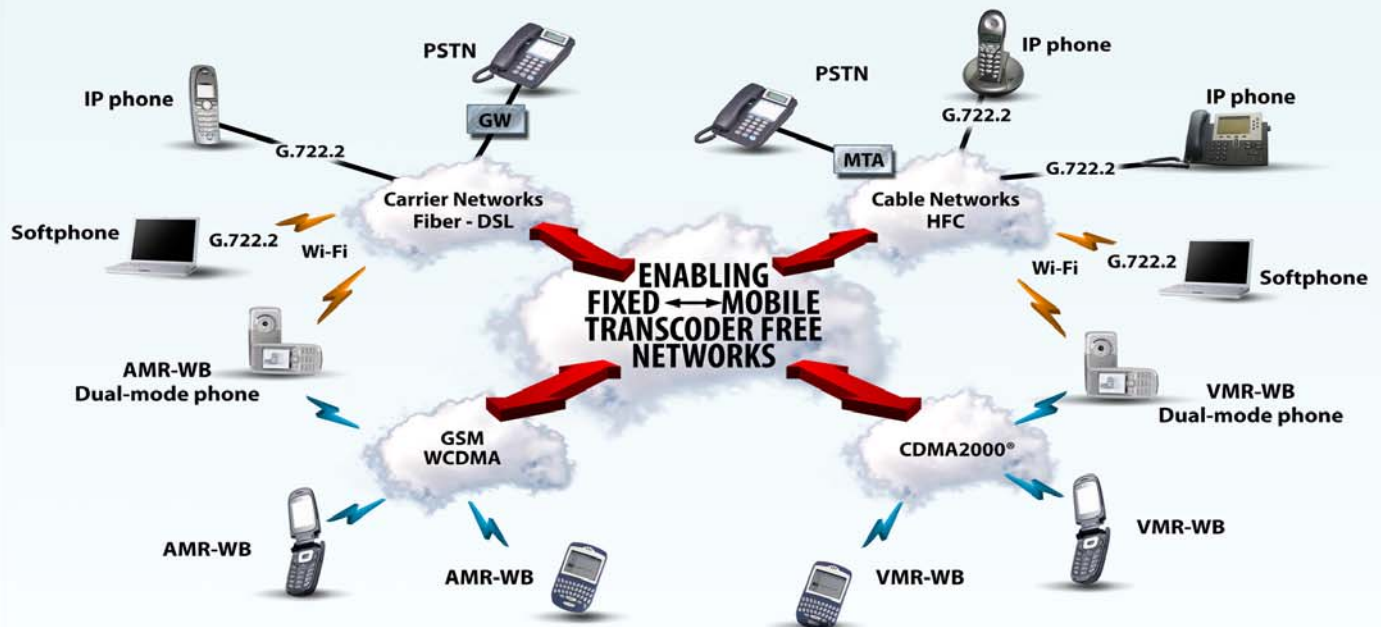
- An open, collaborative and competitive process ensures that the best technologies are chosen
- Requirements are defined by key players in the industry
- Designed for smooth evolution – e.g., AMR-WB carries narrowband signals without adding impairments
- Published algorithms and source code (both fixed 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.

VoiceAge and ACELP are registered trademarks of VoiceAge Corporation in Canada and/or other countries. All other trademarks are the property of their respective owners.



VoiceAge Corporation 750 Lucerne Road, Suite 250 Montreal (Quebec) H3R 2H6 Canada
Tel: +1.514.737.4940 Fax: +1.514.908.2037 <http://www.voiceage.com> email: sales@voiceage.com
SB-07 Revision 1 08/2006