SPIRIT DSP
Voice & Video Engine Experts

SPIRIT EVRC Speech Codec

The Enhanced Variable Rate Codec (EVRC) is based upon the RCELP algorithm, appropriately modified for variable rate operation and for robustness in the CDMA environment. RCELP is a sort of the Code-Excited Linear Prediction (CELP) algorithm. Unlike conventional CELP encoders, RCELP does not attempt to match the original speech signal exactly. Instead of attempting to match the original residual signal, RCELP matches a time-warped version of the original residual that conforms to a simplified pitch contour. The pitch contour is obtained by estimating the pitch delay once in each frame and linearly interpolating the pitch from frame to frame. One benefit of using this simplified pitch representation is that more bits are available in each packet for the stochastic excitation and for channel impairment protection than by traditional fractional pitch approach. This results in enhanced error performance without impacting perceived speech quality in clear channel conditions.

Features

- Operates at 9.6/4.8/1.2 kbps bitrates
- Small memory footprint
- Low CPU usage
- RCELP algorithm
- Fully compliant with the TIA-EIA-IS-127 technical requirements
- Enhanced error performance
- Supports noise suppression
- Supports post filtering
- Can be easily ported to any DSP or RISC platform

Benefits

- Highly optimized code ideal forresource constrained applications
- Easy integration and fast time-tomarket

Applications

- Wireless communication
- Media gateway

Availability

- Object code
- Fully functional evaluation object code (available upon request)
- Libraries for x86 platform under OS Windows and Linux x

Resource Requirements

PLATFORM	Win32	
	Encoder	Decoder
Peak MIPS	61	11
Program Memory, KB	119	
Dynamic Memory, KB	14	
Stack Memory, KB	15	

CONTACTS

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