Implementation of Real-time Multi-channel Vocoder

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Abstract

This presentation describes the design and implementation of an application providing multiple channels of real-time speech encoding and decoding on a DSP processor. The application combines speech coding recommendation G.729/A from International Telecommunication Union, with application development framework RF3 from Texas Instruments. The ITU recommended G.729/A speech coding algorithm is available as a complete set of "C" language reference files maintained by ITU. Taking the G.729/A code and formatting it to meet Texas Instruments' eXpressDSP algorithm standard or "XDAIS" allows it to be used in their multi-channel reference framework (RF3). The objective is to complete a real-time application running multiple channels of the G.729/A vocoder on the Texas Instruments TMS320 C6x DSP.

Biography of Speaker

James Foote worked as a software engineer for TRW in Sunnyvale, CA from 1997 to 1998, and at Digidesign Corporation in Menlo Park, CA since 1998. He received his BSEE degree from Santa Clara University in 1997. He is currently enrolled in the DSP Certificate Program at Santa Clara University, with plans to complete a master’s degree in electrical engineering.