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**STATE OF THE ART CDMA VOCODER TECHNOLOGY  
PASSES CRITICAL MILESTONE**

***Breakthrough Technology To Provide Significant Capacity And Quality Gains On  
cdmaOne and CDMA2000 Systems***

COSTA MESA, Calif., March 15, 2001 -- The CDMA Development Group (CDG) ([www.cdg.org](http://www.cdg.org)) today announced significant strides made in the development of a new and innovative voice encoder (vocoder) for **cdmaOne** and CDMA2000 systems. A vocoder converts the spoken word into digital code and vice versa. The global standards body, 3GPP2, with support from the CDG, recently completed the development of the Selectable Mode Vocoder (SMV) algorithm and released it for implementation. The breakthrough technology utilized in SMV will allow CDMA subscribers to enjoy superior quality while allowing the service providers to increase capacity as needed.

“SMV builds upon the heritage of CDMA’s innovation in high-quality voice coders, which includes the 13kbps and Enhanced Variable Rate Codec solutions,” said Perry LaForge, executive director of the CDG. “We are extremely pleased with the progress the industry has made in getting the new technology ready for the market.”

SMV’s advances come from improvements in speech encoding technology. SMV also implements an algorithm to continually choose optimal encoding rates based on the input speech

characteristics, thereby ensuring that the sound quality remains high. This feature provides the SMV vocoder with a significant advantage over other solutions, such as the newly developed GSM Adaptive Multi Rate (AMR) vocoder (AMR slowly switches between fixed encoding rates based on RF channel conditions, resulting in reduced sound quality). Both SMV and AMR vocoders were compared recently using listening tests conducted at an independent lab. The results show clearly that SMV delivers better quality than the AMR, even when using lower rates. This is significant in that lower coding rates results in greater capacity on the network.

Furthermore, SMV offers CDMA carriers the flexibility to tradeoff small quality losses vs. large system capacity gains. Wireless operators can gain up to 75% increase in system capacity compared to the current CDMA vocoders by using the lower encoding rates of SMV. Wireless operators can also provide improvements in voice quality by using data rates similar to the current CDMA vocoders. SMV operational mode can be controlled on a static or dynamic basis, allowing carriers further efficiency in service at peak loaded times.

3GPP2 started the SMV standardization process in 1Q99. This was the first industry-wide effort to develop a vocoder that fully exploited CDMA's ability to increase system capacity proportional to the vocoder's reduction in average encoding rate. SMV algorithm development was completed in Feb. 2001, and it has been released to the 3GPP2 community for implementation. Products based on the SMV technology are expected by the middle of next year.

The CDMA Development Group is a nonprofit trade association formed to foster the worldwide development, implementation and use of **cdmaOne** and cdma2000. The 110 member companies of the CDG include many of the world's largest wireless operators and equipment manufacturers. The primary activities of the CDG include development of CDMA features and services, public relations, education and seminars, regulatory affairs and international support. Currently, there are more than 500 individuals working within various CDG subcommittees on CDMA-related matters. For more information about the CDG, contact Valerie Christopherson of the CDG News Bureau at +1-714-540-1030, ext. 11, e-mail [vchristopherson@bockpr.com](mailto:vchristopherson@bockpr.com), or visit the CDG Web site at [www.cdg.org](http://www.cdg.org).