

CDMA2000:

Evolving to Continue the Expansion of the Wireless World

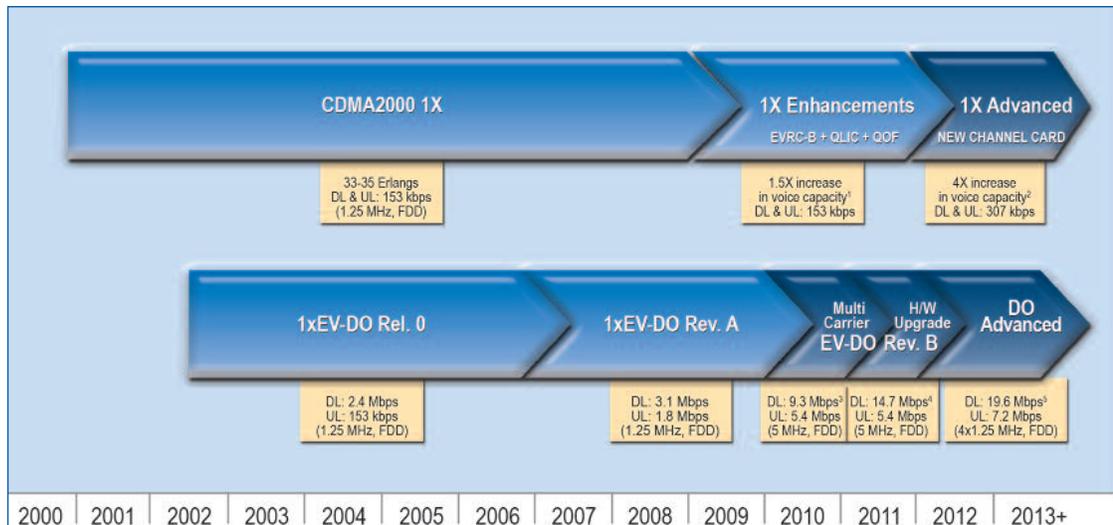


In today's highly-competitive 3G marketplace, wireless broadband is driving future growth while voice remains an essential element. The trend for service providers is to evolve beyond mobile voice and offer instant and affordable access to people, information, personal resources and media anywhere in the world. This requires a reliable and mature technology that offers a long-term evolutionary path CDMA2000®.

The CDMA community continues to invest in enhancing CDMA2000 to increase its value, performance and competitiveness. CDMA2000 1X is a leader in the industry in delivering 3G communications in terms of voice quality, capacity and affordability. Based on new

enhancements, the voice capacity of CDMA2000 1X can increase by a factor of up to four and the peak data rates of EV-DO can increase by a factor of up to ten.

CDMA2000 ROADMAP



1) Capacity increase is primarily due to new EVRC-B codec, handset interference cancellation (QLIC) and Quasi-Orthogonal Functions (QOF) 2) Capacity increase is primarily due to UL and DL interference cancellation, mobile receive diversity and several radio link enhancements 3) Peak rate for 3 EV-DO carriers with software upgrade. Doubles network capacity or triples peak data speeds 4) Peak rate for 3 EV-DO carriers with hardware upgrade supporting 64 QAM in the DL. Standard supports up to 15 aggregated 1.25 MHz carrier 5) DO Advanced includes smart network techniques, new device enhancements, 2x2 MIMO support, 64 QAM in the DL and 16 QAM in the UL 6) Operators have the option to only implement software upgrades

CDMA2000 OFFERS A LONG-TERM EVOLUTIONARY PATH

CDMA2000 1X enhancements are quadrupling CDMA's already-excellent voice capacity. The enhancements, known as 1X Advanced, include a new vocoder, more antennas, interference cancellation, additional Walsh codes and a new radio configuration to add more capacity with less transmit power. The benefits of these improvements include a lower cost per call, thanks to greater spectral efficiencies (enabling unlimited voice offerings), as well as a more efficient use of spectrum, which is vital for spectrum-constrained markets. These enhancements also provide opportunities to increase broadband revenue by freeing up channels that can be used for EV-DO broadband data services.

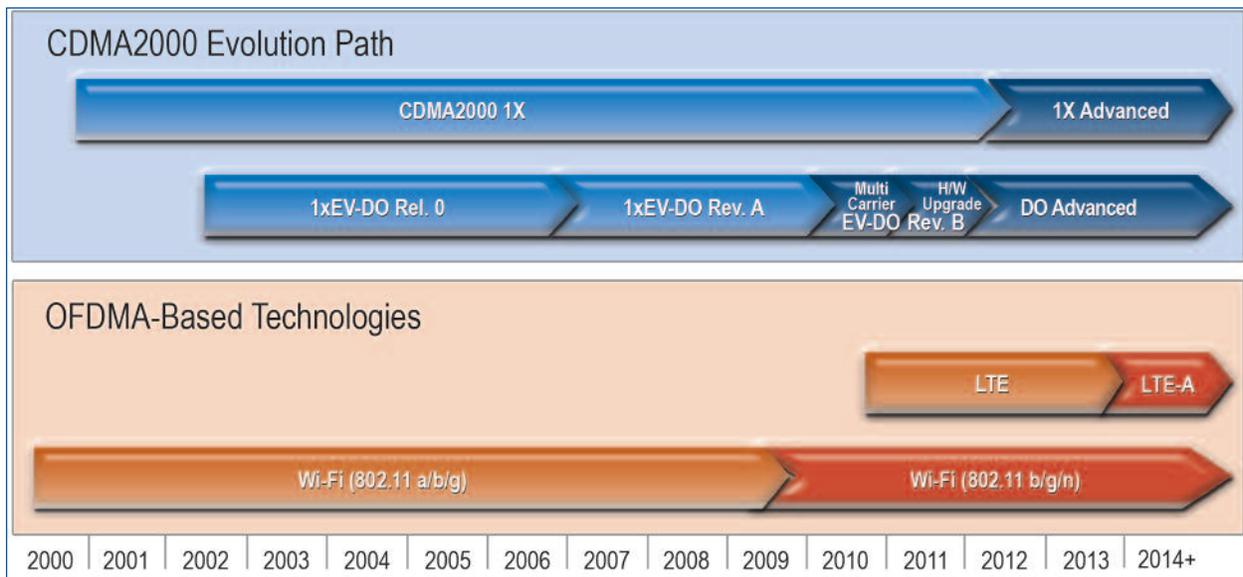
CDMA2000 1xEV-DO has been enhanced via software upgrades to enable spatial diversity, multicarrier operations, network load balancing, distributed network scheduler, adaptive frequency reuse, single carrier multi-link, smart carrier management and other important features. This evolution substantially increases EV-DO network capacity in an effective and prudent manner. EV-DO can offer better speeds, increased sector capacity, reduced latency, advanced quality of service features, an IP-based network and backward compatibility, allowing operators to provide more robust mobile broadband Internet access and premium data services to customers.

CDMA2000 WILL CONTINUE TO BE COMPLEMENTED BY OFDM-BASED SOLUTIONS

3G CDMA technologies are complemented by wider-bandwidth OFDM-based solutions such as LTE and WiFi. CDMA2000 is continuing to offer global roaming and ubiquitous high-performance mobile broadband and voice services with a defined evolution path, while OFDM solutions will augment CDMA2000 capacity by leveraging wider-bandwidths in high-teledensity areas. CDMA2000 operators have the option to supplement their networks with LTE and/or Wi-Fi, without requiring an intermediate technology step (GSM/UMTS/HSPA) beforehand.

CDMA2000 continues to evolve in a highly-competitive global wireless market. Even as 3G CDMA is augmented by interoperability with wider-bandwidth OFDMA-based solutions, ongoing technology enhancements will ensure that CDMA2000 expands and remains a key source of wireless voice and mobile broadband service revenue in both developed and emerging markets for many years to come.

CDMA2000 AND OFDM-BASED SOLUTIONS



CDMA2000 will continue to economically fulfill the ever-growing demand for mobile services on an incremental basis by leveraging existing network assets with existing and/or new devices.