Acronyms & Definitions

1G

First Generation wireless technology. Based on analog or AMPS technology, 1G wireless networks were designed to carry voice traffic only.

1X - a.k.a. 1xRTT, CDMA2000® 1X

Third Generation (3G) wireless technology that offers enhanced voice and data capacity and higher data rates than previous, second generation wireless technologies. 1X is an evolution of cdmaOne™.

1X Advanced

CDMA2000 1X Advanced. An evolution of CDMA2000 1X that quadruples the voice capacity of CDMA2000 1X networks and extends its coverage by 70% (if capacity remains the same). 1X Advanced increases voice capacity by incorporating an EVRC-B codec, Quasi-Linear interference cancellation (QLIC) and Quasi-Orthogonal Functions (QOF) within 1x Advanced devices. Plus, Downlink interference cancellation and mobile receive diversity.

2G

Second Generation wireless technology. Based on digital technology, 2G wireless networks offer increased voice quality and capacity over 1G systems. 2G systems traditionally supported voice and circuit-switched data service. 2G systems are being replaced by 2.5G and 3G networks.

2.5G

Based on digital technology, adding 2.5G wireless technology to a 2G network provides packet-data service and improved data rates. 2.5G technology has been implemented as GPRS.

3G

Third Generation wireless technology. Based on digital technology, 3G wireless networks offer increased voice capacity and provide higher data rates than 2G and 2.5G networks. As defined by the International Telecommunications Union (ITU), CDMA2000, CDMA2000 1xEV-DO, WCDMA/UMTS and HSDPA/HSUPA are 3G technologies.

3GPP

Third Generation Partnership Project, the standards body that oversees WCDMA.

3GPP2

Third Generation Partnership Project 2, the standards body that oversees CDMA2000. 802.11 - a.k.a. Wi-Fi 802.11 refers to the body of standards issued by the IEEE for WLANs (wireless local area networks). 802.11 technologies use an OFDM air interface to connect a device (for example, a Wi-Fi-enabled laptop) to an access point. The 802.11 family of technologies includes 802.11a, 802.11b, 802.11g and 802.11n.

A

Access Point A network device, or communication hub, that connects wireless devices to a wired local area network (LAN).

A-GPS

Assisted-Global Positioning System. A technology used to determine an end-user's position. Differs from traditional GPS by adding an assistance server, which shares tasks with the A-GPS receiver to expedite position location. Commonly associated with location-based services (LBS).

Air Interface

The radio frequency portion of the circuit ("connection") between the cellular handset or wireless modem and the active base station (cell tower).

AMPS

Advanced Mobile Phone Service. The first analog cellular phone system commercially deployed in the 1980s. Analog In telecommunications, an early wireless network technology involving the modulation of radio signals, which transmit information as sound waves over radio signals allowing one call per channel. Most wireless transmission is now done digitally.

Android

Android is an open mobile phone platform that was developed by Google and, later, by the Open Handset Alliance. The platform is based on the Linux operating system and its applications are written in Java.

ANSI

The American National Standards Institute. A standards-setting, non-governmental organization that develops and publishes standards for transmission codes and protocols for use in the United States. ANSI serves as the official U.S. member body to the world's leading standards bodies, including the International Organization for Standardization (ISO).

API

Application Programming Interface. A set of standard methods or functions that application programs can use to access a particular set of services or tools, such as network services and program-to-program commands.

ARPU

Average Revenue Per User. The monthly revenue generated by a consumer's wireless device usage. ARPU is commonly used by wireless network operators and telecommunications/wireless analysts to estimate ROI (return on investment) measures for investments in network infrastructure and end-user services.

Asymmetric Encryption - a.k.a. Public Key Encryption

A method of securing data for transmission that equips each user with two keys, a private key and a public key. Each individual uses the reciepient's public key to encrypt the data that is sent and then each individual uses their own private key to decrypt the data received. A trusted third party often provides keys.

Asynchronous

Communication signals that do not rely on a shared timing mechanism to transmit and receive information. Examples are GSM and WCDMA networks.

Backhaul

Refers to transporting data or voice between the wireless network and the PDSN (packed data serving node, in wireless communications), or between the wireless network and the Internet (in a wireless local area network implementation).

Band

In wireless communications, a frequency or contiguous range of frequencies.

Bandwidth

In wireless communications, the width or capacity of a communications channel. Analog bandwidth is measured in hertz (Hz). Digital bandwidth is the volume of data that a channel can carry and is measured in bits per second (bps).

Base Station

Often called a cell tower or a cell site, a base station is a transmitter/receiver location that establishes radio links between the wireless system and the wireless device. The base station includes an antenna tower, transmission radios and radio controllers. Each geographic area in a cellular network requires a base station.

BCMCS

Broadcast Multicast Service. A broadcast and multicast standard developed for third-generation (3G) cellular networks. Provides transmission of multimedia data from a single source to all subscribers in a specific area. Examples of multicast content could include video and movie clips, news, sports or stock quotes.

Bluetooth™

A short-range wireless technology that interconnects devices such as phones, computers, keyboards, microphones and mice. Bluetooth supports both voice and data communications.

bps

Bits Per Second. The standard for measuring the smallest unit of information in digital communications and data processing.

Broadband

Generic term for high-speed digital Internet connections, such as wireline, DSL or cable modems and wireless Third Generation technologies, such as CDMA2000 1xEV-DO, HSDPA and WCDMA (UMTS ).

BSC

Base Station Controller. A component of a base station, the BSC supervises the functioning and control of multiple base transceiver stations and acts as a small switch.

BTS

Base Transceiver Station. Includes the electronic equipment and the antenna that comprise a radio transceiver facility or single base station.

CAPEX

Capital Expenditure. An expenditure connected to acquiring or upgrading physical assets such as equipment, property or buildings.

Carrier

In wireless communications, an electromagnetic pulse, channel or radio wave transmitted at a steady base frequency. Used to transmit radio signals to a radio receiver. Also, a term commonly used to refer to a wireless network operator or service provider that provides mobile telecommunications services.

CDMA

Code Division Multiple Access. A digital wireless technology that converts analog information, such as speech, into digital information, which is then transmitted as a radio signal over a wireless network. CDMA uses spread-spectrum technology, decreasing potential interference while achieving privacy. CDMA technology is the basis for third generation (3G) wireless technologies which offer increased voice capacity and provide higher data rates than 2G and 2.5G networks.

CDMA2000® - a.k.a. IS-2000

CDMA2000 is a family of third generation (3G) wireless standards that offers enhanced voice and data capacity and higher data rates than previous, second generation wireless standards. The CDMA2000 standards include CDMA2000 1X and CDMA2000 1xEV-DO. CDMA2000 is a direct evolution of the cdmaOne standard.

CDMA2000 1X - a.k.a. 1X, 1xRTT, CDMA2000

CDMA2000 1X is an IMT-2000 (3G) wireless technology that enables high-quality voice and high-speed data communications. It is the most efficient wireless technology for circuit-switched voice communications and it supports packet data speeds of up to 153.6 kbps in a single (1X) 1.25 MHz radio channel.

CDMA2000 1xEV-DO - a.k.a. EV-DO, DO

CDMA2000 1X Evolution - Data Optimized. Third Generation wireless technology that offers broadband data speeds to support applications such as VPN access, video downloads and large file transfers. CDMA2000 1xEV-DO is a direct evolution of CDMA2000 1X.

CDMA2000 1xEV-DV

CDMA2000 1X Evolution Data and Voice. Third Generation wireless technology that was proposed to support high-speed voice and data on the same channel to enable Internet connectivity for cellular phones, PDAs and other mobile devices. This technology will not be commercialized.

cdmaOne™

A brand name, trademarked and reserved for the exclusive use of the CDMA Development Group (CDG) member companies. cdmaOne was the term coined to describe the original CDMA systems based on the IS-95A and IS-95B standards, which made use of 1.25 MHz channels to deliver voice and data.

CDPD

Cellular Digital Packet Data. An add-on technology that enabled first-generation (1G) analog systems to provide packet data. 2.5G and 3G systems are replacing CDPD.

Cell

The geographic area encompassing the signal range from one base station. Wireless networks are comprised of many overlapping cells to efficiently use radio spectrum for wireless transmissions.

Cell Site

A fixed transmitter/receiver location, also known as a base station or a cell tower, which establishes communications between a wireless system and a wireless device using radio links. The cell site includes an antenna tower, transmission radios and radio controllers.

Cell Tower

A fixed transmitter/receiver location, also known as a base station or a cell site, which establishes communications between a wireless system and a wireless device using radio links. The cell tower includes an antenna tower, transmission radios and radio controllers.

Cellular

Analog or digital communications that provide a consumer with a wireless connection from the mobile device to a relatively nearby transmitter (base station). The transmitter's coverage area is called a cell.

Channel

The amount of wireless spectrum occupied by a specific technology implementation. For cellular communications, there is a transmit side and a receive side. For example, a 5 MHz channel uses 5 MHz to transmit and 5 MHz to receive, using a total of 10 MHz of wireless spectrum.

Circuit-Switched Network

Networks that temporarily establish a physical circuit "connection" and keep that circuit reserved for the user until a disconnect signal is received. A dial-up modem is an example of a circuit-switched connection. In contrast, a packet-switched network is connectionless or "always on," eliminating the need to initiate a connection for data transfer.

Coverage Area

Geographic area served by a cellular system in which service is available to wireless users.

CRM

Customer Relationship Management. An integrated information management system that is used to plan, schedule and control the pre- and post-sales activities within an organization to improve customer tracking and communication. Enterprises can wirelessly extend their CRM solutions, enabling sales

professionals to remotely access timely customer data for increased productivity and improved customer service.

DES

Data Encryption Standard. Protects unclassified computer data using a 56-bit, private key, symmetric cryptographic algorithm; issued as a Federal Information Processing Standard.

Digital

A form of transmission that transforms analog signals, such as voice, into a series of electrical or optical pulses that represent the binary digits 0 and 1. This numerical data is then converted into various forms depending on the type of network, such as radio waves for wireless transmission, electronic pulses for a wired network or optical light waves for fiber optics. Digital networks offer superior Quality of Service (QoS), secure transmission and more bandwidth than analog lines.

DO Advanced

Data Optimized Advanced. An evolution of EV-DO Rev. B that increases the peak data rate on the reverse and forward links to 12.4 Mbps and 32 Mbps, respectively, across 5 MHz of bandwidth. DO Advanced includes smart network techniques, device enhancements, 2x2 MIMO support, 64 QAM in the DL and 16 QAM in the UL.

Downlink - a.k.a. Forward Link

The connection from the network to the end-user communications device. In satellite communications, also refers to the connection from a satellite to a terrestrial receiver.

DRM

Digital Rights Management. Technology for copyright protection of digital media, including ringtones, music, graphics and video. Developed to prevent the illegal distribution of purchased content over the Internet.

DSSS Direct Sequence Spread Spectrum. A spread spectrum technique used in radio transmission systems, such as CDMA, wireless local area networks (WLAN) and some personal communications

services (PCS) systems. DSSS converts a data stream into a stream of packets, which are then transmitted over a wide range of frequencies using a “scattering” approach.

Dual Band

Functionality that allows a mobile phone to transmit in two frequencies for wider coverage area. For example, a mobile phone may be equipped to use both the 800 MHz cellular and 1900 MHz PCS frequencies to send and receive calls.

Dual Mode

Functionality that allows a mobile phone to operate in two different modes for greater roaming capabilities. For example, a mobile phone may be equipped to support both CDMA2000 and WCDMA standards to send and receive calls.

DVB-H

Digital Video Broadcasting - Handhelds. A multicast technology standard specified by the DVB Project for the multicast delivery of TV-like programming to wireless devices. With DVB-H, one signal is sent from the base station and received by all subscribing devices within range.

E

E911

Enhanced 911. A U.S. Government-mandated capability that automatically provides the caller’s geographic location and wireless phone number to the 911 call center. The goal of the FCC’s wireless E911 rules is to improve the effectiveness of wireless 911 services by providing emergency dispatchers with location information to within 50 to 300 meters of the caller’s exact location.

EDGE

Enhanced Data Rates for Global Evolution. A software/hardware enhancement for GSM networks designed to provide higher data rates for the delivery of multimedia and other broadband applications for wireless devices.

Embedded

In wireless communications, used to describe capabilities, such as Internet access, that are contained within a device.

Encryption

In security, encryption is the ciphering of data by applying an algorithm to plain text. Types include Asymmetric, Symmetric and Public Key.

End-to-End Security

In wireless communications, safeguarding information in a network by encryption to ensure secure data transmission from the point of origin to the point of destination.

ERP

Enterprise Resource Planning. A business management system that integrates all major facets of a business, such as manufacturing, finance, sales and human resources functions. ERP software links together various back-office computer systems, including SFA (sales force automation) and CRM (customer relationship management) applications. ERP software typically incorporates heavy use of telecommunications, including providing wireless access to these systems to enable real-time information requests. EV-DO Third Generation wireless technology that offers broadband data speeds to support applications such as VPN access, video downloads and large file transfers. See “CDMA2000 1xEV-DO”.

EV-DO Revision A - a.k.a. EV-DO Rev. A, Rev. A

Evolution - Data Optimized Revision A (Rev. A). An evolution of 1xEV-DO Rel. 0, that increases the peak data rate on the reverse and forward links to 1.8 Mbps and 3.1 Mbps, respectively, across 1.25 MHz of

bandwidth. It also incorporates Orthogonal Frequency Division Multiplexing (OFDM) technology to enable multimedia broadcast and multicasting services (MBMS) or one-to-many content delivery.

EV-DO Revision B - a.k.a. EV-DO Rev. B

Evolution - Data Optimized Revision B (Rev. B). An evolution of 1xEV-DO Rev. A that increases the peak data rate on the reverse and forward links to 5.4 Mbps and 14.7 Mbps, respectively, across 5 MHz of bandwidth. Rev. B's peak data rates are proportional to the number of carriers aggregated. The Rev. B standard allows up to 15 carriers to be aggregated even if they are in non-adjacent or non-contiguous blocks of spectrum. When 15 channels are combined in 20 MHz bandwidth, Rev. B delivers peak data rates of up to 27 Mbps in the reverse link and 46.5 Mbps in the forward link. It also incorporates Orthogonal Frequency Division Multiplexing (OFDM) technology to enable multimedia broadcast and multicasting services (MBMS) or one-to-many content delivery.

EVRC

Enhanced Variable Rate Codec. A speech codec used in CDMA networks to improve speech quality with lower bit rates. EVRC uses Relaxed Code Excited Linear Prediction (RCELP) technology to compress 20 milliseconds of 8000 Hz, 16-bit sampled speech input into output frames of one of three different sizes: full-rate – 171 bits (8.55 kbps), half rate – 80 bits (4.0 kbps) or eighth rate – 16 bits (0.8 kbps).

EVRC-B

Enhanced Variable Rate Codec Revision B. An enhancement to EVRC that compresses each 20 milliseconds of 8000 Hz, 16-bit sampled speech input into output frames of one of four different sizes: full-rate – 171 bits (8.55 kbps), half rate – 80 bits (4.0 kbps), quarter rate – 40 bits (2.0 kbps) or eighth rate – 16 bits (0.8 kbps).

FFA

Field Force Automation. Information technology solutions that help companies improve communication with employees in the field. Wireless FFA solutions increase productivity by enabling mobile employees to remotely access centralized databases, finalize service calls, update time/expense reports and schedule appointments.

FHSS

Frequency Hopping Spread Spectrum. A technique used in radio transmission systems, such as wireless local area networks (WLAN) and select mobile networks. FHSS converts a data stream into a stream of

packets which are then sent in short bursts via transmitters and receivers that move or “hop” from one frequency to another.

Firewall

A combination of hardware and software that protects a computer or group of computers from access by an outside network or computer user. A firewall enforces a boundary between two or more networks.

Flash Memory

A type of memory that can be erased and reprogrammed (rewritten). Commonly used in mobile phones, digital cameras, audio players and removable memory cards, such as Memory Sticks or Secure Digital (SD) Cards.

Forward Link - a.k.a. Downlink

The connection from the network to the end-user communications device. In satellite communications, also refers to the connection from a satellite to a terrestrial receiver.

FPS

In video, frames per second. Frame Relay Uses a form of packet-switching and multiplexes data. A frame relay network is able to accommodate data packets of various sizes associated with virtually any native data protocol. An access standard defined by the ITU.

Frequency

The rate at which an electromagnetic waveform alternates. Usually measured in hertz (Hz) or megahertz (MHz).

Gateway

A network point that acts as an entrance to another network.

GB

Gigabyte. A measure of computer data storage capacity. Measured as approximately a billion bytes or 1,073,741,824 in decimal notation.

GHz

Gigahertz. A measure of frequency equal to a billion hertz or a thousand megahertz (MHz). Gigahertz is often used to measure UHF (ultra-high frequency) or to express microprocessor clock speed in some computers.

GPRS

General Packet Radio Service. A 2.5G technology standard that is an upgrade to a GSM network. Adds packet data to the existing voice network.

GPS

Global Positioning System. A worldwide radio-navigation system developed by the U.S. Department of Defense to enable users to determine their exact location anywhere on the globe from land, air or sea. GPS works via radio signals sent from orbiting satellites to receivers on the ground. GPS receivers are used in a wide range of commercial applications from fleet management to rural navigation.

gpsOne®

An assisted-GPS (A-GPS) position-location technology that integrates data from both wireless network base stations and GPS satellites for a highly-accurate location description. Enables location-based services for wireless devices that work in all types of terrains and dense metropolitan areas.

Groupware

A category of enterprise software that allows employees to work more collaboratively. Groupware includes email and PIM (personal information management) functionality such as calendar, to-do lists and contact information; and allows employees to share data. Examples include Microsoft® Exchange/Microsoft Outlook® and Lotus® Domino/Lotus Notes.

GSM

Global System for Mobile Communications. A second-generation wireless telecommunications standard for digital cellular services first deployed in Europe. GSM is based on TDMA technology and provides circuit-switched data connections.

GUI

Graphical User Interface. The interface that allows the user to interact with a particular device, such as a wireless phone or personal computer. Elements include pull-down menus, buttons, scroll bars, iconic images, windows and help wizards. Sometimes pronounced “gooey”.

H

H.263

A video compression standard developed by the International Telecommunications Union (ITU) for transmitting video over limited bandwidth connections, such as mobile networks. Supports only the visual portion of the video stream; the audio portion is handled separately.

H.264 - a.k.a. MPEG-4 AVC

A high-compression, digital video standard that offers greater compression than previous standards. Considered an option for transmitting full-motion video over wireless and Internet connections. Jointly developed by the International Telecommunications Union (ITU) and the ISO Moving Picture Experts Group (MPEG).

Handoff

The process, invisible to the user, of transferring a cellular phone conversation from one base station (cell tower) to another without interruption to the call. There are two types of handoffs: hard and soft.

Handset

A wireless device that contains a transmitter and receiver. Also known as a cellphone or mobile phone.

Hard Handoff

A handoff is the process, invisible to the user, of transferring a cellular phone conversation from one base station (cell tower) to another without interruption to the call. Hard handoffs require that the connection of a cellular phone call be broken in the original base station before the connection can be made in the next base station. A hard handoff may result in a dropped call.

Hertz

The international unit for measuring frequency, equivalent to cycles per second. One megahertz (MHz) is one million mertz. One gigahertz (GHz) is one billion hertz.

Hot Spot

A location, such as a coffee shop, airport or bookstore, where a consumer can establish a WLAN (wireless local area network) or Wi-Fi connection. Hot spots provide a wireless access point for the user and limited coverage (approximately 100 feet), depending on the location.

HSDPA

High-Speed Downlink Packet Access. An enhancement to WCDMA networks that provides higher data speeds in the downlink to support applications such as VPN access, video downloads and large file transfers.

HSUPA

High-Speed Uplink Packet Access. An enhancement to WCDMA networks that provides higher data speeds in the uplink to support applications such as VPN access and large file transfers.

I

iDEN®

Integrated Dispatch Enhance Network. A proprietary technology from Motorola based on the TDMA standard that allows users to access phone calls, two-way radio transmissions, paging and data from one wireless device.

IEEE

Institute of Electrical and Electronics Engineers. A standards body responsible for developing computing and electronics standards. The IEEE developed 802.11 standards for WLANs (wireless local area networks).

IETF

Internet Engineering Task Force. The body that defines standard Internet operating protocols such as TCP/IP.

IM

Instant Messaging. Instant, real-time, text-based communication between two or more people over a network such as the Internet.

i-mode

Internet Mode. A proprietary cell phone service based on cHTML technology developed by Japan's NTT DoCoMo. i-mode supports Web content and services, such as mobile banking, email and news reporting for cellular phones.

IMS

IP Multimedia Subsystem. An open industry standard for voice and multimedia communications over packet-based IP networks. Supports technologies such as IM (instant messaging), VoIP (voice over Internet protocol), push to talk (PTT) and video calling.

IMT-2000

International Mobile Telecommunications for the Year 2000. A set of ITU specifications for third-generation wireless networks comprised of five wireless standards including CDMA2000 and WCDMA.

Internet Protocol - a.k.a. IP

Internet Protocol. The method of sending data from one computer to another on the Internet. IP is part of the TCP/IP protocol and is an integral component of the Internet. Also commonly used as an abbreviation for Intellectual Property.

IP Datacasting

Simultaneous transmission of content from a single source to a large number of wireless subscribers. Usually refers to the delivery of a wide variety of TV-like programming to wireless devices, and can also include IP-based content such as games or video and audio files.

IPsec

Internet Protocol Security. A collection of protocols for secure exchange of packets at the Internet protocol (IP) layer. IPsec supports two encryption modes: Transport mode encrypts only the data portion of each packet; Tunnel mode encrypts the data portion and header of each packet.

IS-41 - a.k.a. ANSI 41

The network standard used by AMPS, CDMA and TDMA networks. The basis of the core network for CDMA2000.

IS-95 A/B - a.k.a. ANSI 95 A/B

Interim Standard 95. The interim standard for CDMA-based cellular networks.

IS-2000

Interim Standard 2000. The interim standard for CDMA2000, the third-generation (3G ) wireless mobile standard for CDMA2000-based cellular networks.

ISO

International Organization for Standardization. Chartered by the United Nations, ISO was formed to define and promote the development of various international standards.

ITU

International Telecommunications Union. An agency of the United Nations with the goal of establishing telecommunication standards.

J

Java™

A programming language developed by Sun Microsystems for creating and running software programs on a single computer and in networked environments, such as the Internet. Java programs are portable and can be run anywhere in a network that has a Java virtual machine (JVM).

JPEG

A standard file format for image compression, typically for photographic images. Commonly used to store and transmit photographs over the Internet. The most common file extensions for this format are .jpg or .jpeg.

JVM

Java™ Virtual Machine. Interprets compiled Java code for a computer's processor so it can execute a Java program's instructions.

K

KB

Kilobyte. A measure of computer memory or storage. Measured as 1,024 bytes in decimal notation.

Kbps

Kilobits per second. Commonly used as a speed for data transmission. Measured as 1,000 bits per second.

Kilohertz (KHz)

One thousand hertz. A measurement often used to reference radio frequencies.

L

L2TP

Layer 2 Tunneling Protocol. A tunneling protocol that enables the operation of a virtual private network (VPN) over the Internet.

LAN

Local Area Network. A small communication network covering a limited area, such as within a building or group of buildings.

Last Mile

Commonly used in telecommunications to refer to the final delivery of communications connectivity between the network and the end user's point of access (home or business).

LBS

Location Based Services. Enables operators to offer personalized services based on the user's location. Examples of LBS include regional map information for real estate agents and asset tracking solutions for service representatives at logistics and transportation companies.

LCD

Liquid Crystal Display. A thin, flat display screen consisting of numerous color or monochrome pixels arranged in front of a light source. LCDs are used in many mobile and other battery-powered electronic devices because of relatively low energy requirements and easy readability.

LTE

Long Term Evolution. A highly optimized mobile broadband OFDMA solution designed from the ground up to deliver high-speed broadband data, voice (VoIP), and Multimedia services. LTE complements existing 3G solutions by leveraging wider bandwidths (up to 20 MHz), and advanced antenna techniques (MIMO, SDMA and Beam forming).

M

MB

Megabyte. A measure of computer processor storage and real and virtual memory. Measured as 1,048,576 bytes in decimal notation.

MBMS

Multimedia Broadcasting Multicasting Service. Enables one source to simultaneously send data, such as video or audio programming, to multiple users who subscribe to the service.

Mbps

Megabits per second. Measured as one million bits per second. A measurement of the amount of data transferred in one second between two telecommunication points.

Mediacast

Occasionally used to refer to the multicast delivery of a wide variety of TV-like programming to wireless devices.

MHz

Megahertz. One million hertz or cycles per second. A measurement often used to describe the speed of digital and analog signals.

Microbrowser

A Web browser specialized for a wireless phone, smartphone or PDA optimized to run in the low-memory and small-screen environment of a handheld device.

Middleware

A type of software that connects or “glues together” two or more otherwise separate types of software and translates information between them. For example, middleware is used to allow access between two different databases on a network.

MIMO

Multiple Input, Multiple Output. In wireless communications, an antenna technology that uses multiple antennas at the source (transmitter) and the destination (receiver). Antennas at each end are combined to reduce errors and improve data speed. Can be used in conjunction with OFDM.

MMS

Multimedia Messaging Service. Allows wireless device users to send multimedia, such as video or digital photos, from one device to another.

MPEG-3 - a.k.a. MP3

Moving Picture Experts Group-3. A standard for compressing audio into a compact file without losing a significant amount of its quality. Used for the mobile transmission and storage of audio files.

MPEG-4 - a.k.a. MP4

Moving Picture Experts Group-4. A standard for compressing video into a compact file without losing a significant amount of its quality. Used for the transmission and storage of images and video clips.

MSC

Mobile Switching Center. A sophisticated telephone exchange that provides mobility management services, such as circuit-switched calling, and coordination between base stations (cell towers), networks and mobile users within a network.

Multicarrier EV-DO

Multicarrier EV-DO, which is part of the EV-DO Rev. B standard, is a software-upgrade to EV-DO Rev. A that dynamically aggregates multiple 1.25 MHz carriers across wider frequency blocks to provide higher network capacity and increased user data rates.

Multicast

Simultaneous transmission of content from a single source to large numbers of wireless subscribers. Usually refers to the delivery of a wide variety of TV-like programming to wireless devices.

Multipath

The multiple paths a radio wave may follow between transmitter and receiver. In cellular communications, refers to a radio signal reaching the receiving antenna by two or more paths.

Multipath Fading

Interference during wireless signal reception caused by the deflection of a radio signal off obstacles such as buildings, mountains and other large obstructions.

N

Node

A point of connection into a network. In packet-switched networks, a node is one of the many packet switches that form the network's backbone.

Node B

Denotes the base transceiver station (BTS) in WCDMA technology. The transmitter(s) and receiver(s) used to communicate directly with wireless devices.

O

OEM

Original Equipment Manufacturer. The manufacture of a device (often a consumer electronics product) that is sold to another company which in turn sells the device to the end consumer under its own name.

OFDM

Orthogonal Frequency Division Multiplexing. A wireless communications technology and modulation technique that divides available spectrum into multiple radio frequency (RF) channels. In OFDM, a single transmitter transmits on many different, independent frequencies, which typically results in a signal with high resistance to interference.

OFDMA

Orthogonal Frequency Division Multiple Access. Wireless technology based on OFDM that offers forward- and reverse-link communications and broadband data speeds to support applications such as VPN access, video downloads and large file transfers.

OMA

Open Mobile Alliance. A standards body that develops open standards for wireless information and telephony services on digital mobile phones and other wireless terminals.

Operating System - a.k.a. OS

Software that manages the basic operations of a computer system. Examples include UNIX, Windows, Palm OS and Mac OS X.

Operator

A wireless network operator, also often referred to as a carrier or service provider, which provides mobile telecommunication services.

OpEx

Operational Expenditure. An expenditure connected to operating a business, including R&D, sales and marketing, and administrative costs.

OSI

Open Systems Interconnection. A reference model established by the ISO to provide a network design framework that allows equipment from different vendors to be able to communicate.

P

Packet

A digital “package” of data that enables efficient use of radio spectrum and routing over a network, such as the Internet or wireless networks. Each packet is numbered separately and includes the Internet address of the destination.

Packet-Switched

Network Networks that transfer digital packets of data. Packet-switched networks are connectionless or “always on,” eliminating the need to connect to a network to send or receive data. In contrast, circuit-switched networks require a dedicated circuit, or connection, for the duration of the data transmission.

PC Card

A wireless modem that can be used in a laptop or other mobile computing device to connect to the Internet. Synonymous with PCMCIA card and WWAN (wireless wide area network) card.

PCMCIA

Personal Computer Memory Card International Association. An international association that standardizes credit-card sized wireless modems which can be inserted into laptops or other mobile computing devices to connect to the Internet. A Type II PC card is the most common PCMCIA card.

PCS

Personal Communications Services. Refers to digital communication services offered within the 1900 MHz cellular frequency band in the Americas.

PDA

Personal Digital Assistant. A portable personal computing device used for text messaging, email, calendar, contacts and a wide range of other applications.

PDC

Personal Digital Cellular. The second-generation TDMA-based wireless technology used in Japan. PDC is incompatible with other wireless networks.

PDSN

Packet Data Serving Node. Refers to the routers used in CDMA2000 wireless networks that comprise the backbone of the network.

PHY

Physical Layer. Transmits raw bits of data by establishing and terminating connections to a networked communications resource. Refers to network hardware, physical cabling or a wireless connection. Considered layer one of the seven-layer OSI (Open Systems Interconnection) model of data communications.

PIC

Pilot Interference Cancellation. Increases the reverse link capacity of CDMA-based technologies by removing interference from the pilot signal.

PIM

Personalized Information Manager. Software for keeping track of contact addresses and phone numbers, appointments, project schedules and task lists. Sometimes called a contact manager.

Pixel

One of the many tiny dots that represent a picture in a computer's memory. Because pixels are so small and so numerous, they appear as a smooth, single image when displayed on paper or a computer monitor. Pixels vary in color and intensity.

PNG

Portable Network Graphics. A file format for image compression. A lossless format, which maintains all image information (such as number of pixels) when the image is viewed. In contrast, glossy formats such as JPEG may lose image information when decompressed for viewing.

POP

Persons of Population. Refers to total population coverage according to a wireless service provider's license. In wireline communications, POP means Point of Presence, which is defined as the connectivity point between two networks.

POTS

Plain Old Telephone Service. The basic wired telephone line that supports standard single-line telephones, telephone lines and access to the PSTN (public switched telephone network).

PPC

Pay Per Call. In contrast to flat rates offered by operators for monthly service under a contract. Also a commonly used abbreviation for the Pocket PC.

PPP

Point-to-Point Protocol. A protocol for communication that allows two devices to transport packets over a data connection, such as a personal computer connected by phone line to a server.

PPTP

Point-to-Point Tunneling Protocol. A protocol for communication that facilitates virtual private networking to enable secure remote access to corporate networks via the Internet.

Protocol

Within the context of data communications, a specific set of rules related to data transmission between two devices. Protocols set standard procedures that enable different types of data devices to recognize and communicate with each other.

PSTN

Public Switched Telephone Network. Refers to the local, long-distance and international phone system. In the United States, PSTN refers to the entire collection of interconnected phone companies.

PTT

Push-To-Talk®. In two-way radio communications, PTT is an instant connection made between two cell phones. PTT works like a “walkie-talkie” and requires transmitters to use the same frequency.

Q

QoS

Quality of Service. A measure of a network’s transmission reliability and efficiency. QoS is commonly used by network operators to indicate a higher level of service guarantee to customers.

R

R-UIM - a.k.a. CDMA SIM card

Removable User Interface Module. A removable card that is inserted into certain CDMA2000 phones. The R-UIM card identifies the user's subscriber information, such as handset number and wireless features, and can also store data, including roaming lists, telephone numbers and addresses.

Rake Receiver

A radio receiver designed to counter the effects of multipath fading; commonly used in devices such as mobile phones. Uses several sub-receivers, each slightly delayed, to tune into the individual paths a radio wave follows (multipaths). Each component is combined to effectively strengthen the signal.

Receive Diversity

A method of using two separate handset-based antennas to improve signal reception, increase data rates and improve network capacity. May also be used when a single device supports two different services, such as GPS for location-based services and CDMA for voice and data transmission.

Reverse Link - a.k.a. Uplink

The connection from the end-user communications device to the network. In satellite communications, also refers to the connection from a terrestrial transmitter to a satellite.

RF

Radio Frequency. Measured in Hertz, megahertz (MHz) and gigahertz (GHz). Wireless and cordless telephones, radio and television broadcast stations, satellite communications systems and two-way radio services all operate using radio frequencies.

RF CMOS

Radio Frequency Complementary Metal-Oxide Semiconductor. A low-cost, high-volume digital process technology. CMOS-based devices use minimal power and don't produce as much heat as other processing technologies. Allows more functions, such as the radio frequency (RF) and baseband components, to be integrated into a single chip.

RFID

Radio Frequency Identification. A method of remotely retrieving data from and storing data associated with animals, people, products or equipment. Requires an RFID tag which contains an antenna to enable the tag to send and receive queries from an RFID transceiver.

RFID Tag

Radio Frequency Identification Tag. A small radio frequency device used to identify and track people, animals, commercial products or corporate assets.

RIM OS

Research in Motion Operating System. A proprietary multi-tasking operating system (OS) used by Research in Motion's (RIM's) Blackberry devices. The OS supports Java, WAP, synchronization with Exchange email, calendar, tasks and notes, as well as Lotus Notes and Novell GroupWise.

RNC

Radio Network Controller. Equipment in third-generation (3G) wireless networks that interfaces with the core network, controls the radio transmitters and receivers in Node Bs, and performs mobility functions.

Roaming

Refers to a cellular subscriber using mobile phone service while outside of his/her service provider's coverage area.

ROI

Return On Investment. A financial performance measure to determine the relative attractiveness of a proposed investment. ROI is typically measured in dollars but can also be measured by less quantifiable benefits such as increased customer satisfaction.

S

S-GPS

Simultaneous-Global Positioning System. In telecommunications, the simultaneous operation of GPS location capabilities and CDMA2000 voice calls.

SCM

Supply Chain Management. The communications link between a company and its suppliers, distributors and customers. Wireless SCM solutions are deployed to allow mobile access to the Internet and private corporate intranets to more efficiently manage inventory.

SDK

Software Development Kit. A set of software tools, usually designed for use with a particular operating system, which enables software developers to write programs that will work on the target operating system.

Service Provider

In wireless communications, a “carrier” or “network operator” that provides mobile telecommunication services.

SFA

Sales Force Automation. A system that allows salespeople to record account and contact information, send form letters and schedule future activities. Wireless SFA solutions provide mobile employees with access to Web-based SFA databases via the Internet.

SIM

Subscriber Identity Module. A removable card inserted into mobile devices. The SIM identifies the user's subscriber information, such as handset number and wireless features, and can also store data, including telephone numbers and addresses.

SIP

Session Initiation Protocol. A standard protocol defined by the Internet Engineering Task Force (IETF). Used to initiate an interactive multimedia user session such as chat, video, voice or gaming.

Smartphone

A category of mobile phones that supports both wireless data and voice capabilities. Smartphones have enhanced software and applications, including operating systems such as Palm OS and Windows Mobile. In addition to telephone functionality, features on a smartphone might include email, Internet access and remote access to corporate databases.

SMIL

Synchronized Multimedia Integration Language. A programming language used to easily define and synchronize multimedia elements, such as video, sound and still images, for Internet usage. Pronounced smile.

SMS

Short Messaging Service. A store-and-forward message service available on many second-generation and all third-generation wireless networks that allows users to send and receive short text messages over wireless devices.

Soft Handoff

The process, invisible to the user, of transferring a cellular phone conversation from one base station (cell tower) to another without interruption to the call. There are two types of handoffs: hard and soft. Soft handoffs do not require the original connection to be broken when transferring to an adjacent base station.

Spread Spectrum

A method of transmitting a radio frequency (RF) signal by "spreading" it over a broad range of frequencies. This facilitates reduced interference and increased capacity within a particular radio frequency band. CDMA technology is based on spread spectrum.

SS7

Signaling System 7. The protocol used in public-switched telephone systems for establishing calls and providing services such as 800 numbers, call forwarding, caller ID and number portability.

SSL

Secure Sockets Layer. A protocol for managing the security of message transmission on the Internet, for example, between a Web server and a Web browser.

Subscriber

In wireless, a user of a fixed or mobile wireless telecommunication service.

Symbian

Symbian is an open mobile operating system that was originally developed by Nokia, Ericsson, Motorola and Psion and, later, by the Symbian Foundation. The OS supports Java, PC synchronization and PIM functionality.

Symmetric Encryption

A secure method of converting data for transmission that uses the same cipher, or "key," to encrypt and decrypt the message.

Synchronous

Communication transmissions that are timed by a clocking signal and occur with equal time intervals between them. An example is the constant transmission of time-sensitive data, such as real-time voice.

TCO

Total Cost of Ownership. A financial measure commonly used by enterprises to calculate total relevant costs of a particular project. TCO includes the actual purchase price or cost of implementation plus relevant costs such as administration, maintenance, support, software and training.

TCP/IP

Transmission Control Protocol/Internet Protocol. A communications protocol that has become the de facto standard for the Internet. "TCP" provides transport functions, ensuring that the total amount of

data sent is correctly received. “IP” provides the routing mechanism, ensuring the information reaches the correct destination.

TD-SCDMA

Time Division-Synchronous Code Division Multiple Access. A third-generation, (3G) wireless standard that offers enhanced voice and data capacity and higher data rates than previous second generation wireless standards. One of the three international CDMA technology-based standards accepted by the ITU for third-generation wireless communications.

TDD

Time Division Duplexing. The application of time-division multiple access (TDMA) to separate inbound and outbound signals. Allows devices to transmit and receive on a single frequency at different time intervals.

TDMA

Time Division Multiple Access. A second-generation, digital wireless communication technology that increases the amount of data that can be delivered by dividing each cellular channel into time slots. Wireless standards that use TDMA technology include GSM, PDC and iDEN.

Terminal

A device, such as a laptop or cellphone, used to access a network.

TIA

Telecommunications Industry Association. A U.S. trade association representing the communications and information technology industry. Responsible for certain technical standards covering both wireless and wireline phone technology.

Tri-Mode - a.k.a. Triple Mode

Triple Mode. Functionality that allows a mobile phone to transmit in three modes for wider coverage area. For example, a mobile phone may be equipped to use analog, 800 MHz cellular and 1900 MHz PCS frequencies to make and receive calls.

TV-Out

Standard TV interface used to connect a mobile device to a compatible external device, such as a television or computer. Used to view images, watch video or play games.

Two-Way Paging - a.k.a. Interactive Paging

The ability to send and receive data via the Internet by way of a paging network.

UMTS - a.k.a. WCDMA

Universal Mobile Telecommunications System. A third-generation (3G), CDMA-based wireless communication standard that offers enhanced voice and data capacity and higher data rates than previous, second generation wireless technologies.

Unicast

The transmission of content from a single source to a single receiver over a network.

Unified Content Delivery System

A rich-media content delivery system that enables operators to consolidate content services for mobile devices under a single service delivery system.

Uplink - a.k.a. Reverse Link

The connection from the end-user communications device to the network. In satellite communications, also refers to the connection from a terrestrial transmitter to a satellite.

UTRAN

UMTS Terrestrial Radio Access Network. The Node Bs and radio network controllers that make up a UMTS network. Enables connectivity between the user equipment and the core network.

UWB

Ultra Wideband. A wireless technology for transmitting large amounts of digital data over a wide spectrum of frequency bands across relatively short distances.

Voice Recognition

The technology found on some wireless phones, PCs and other communication devices that enables the device to respond to spoken commands.

VoIP

Voice Over Internet Protocol. The routing of voice conversations, sent as digital packets of data, over the Internet or other IP network.

VPN

Virtual Private Network. A network that is constructed using public wires to connect remote offices or individual users to their organizations' network. VPNs use encryption and other security mechanisms to ensure network access only to authorized users. VPNs are an essential component of secure wireless computing for an enterprise.

WAN

Wide Area Network. A geographically dispersed telecommunications network. A WAN may be privately owned or rented, but the term usually refers to a public network.

WAP

Wireless Application Protocol. A set of standards that enables a wireless device to browse content from specially coded Web pages over wireless devices such as mobile phones.

WCDMA - a.k.a. UMTS

Wideband CDMA. A third-generation (3G), CDMA-based wireless communication technology that offers enhanced voice and data capacity and higher data rates than previous, second-generation wireless technologies.

WEP

Wired Equivalency Privacy. An optional feature for Wi-Fi and 802.11b that offers privacy by using an encryption algorithm that scrambles data before any data is transmitted.

Wi-Fi

Short for “Wireless Fidelity” and another name for WLAN (wireless local area network). Allows a mobile user to connect to a local area network (LAN) through a wireless connection. Wi-Fi has been deployed in locations such as airports, universities, bookstores, coffee shops, office campuses and private residences.

WiMAX

Wireless Interoperability for Microwave Access. A group of proposed wireless standards for high-throughput broadband connections over long distances. Applications include “last mile” broadband connections and hot spots. Trade name for a family of IEEE 802.16 wireless standards.

Wireless Node

A device equipped with wireless network interface capability.

Wireless Spectrum

A band of frequencies in which wireless signals travel carrying voice and data.

WirelessMAN™

Wireless Metropolitan Area Network. Enables broadband network access with exterior antennas that communicate with base stations that are connected to a core network. An alternative to fixed-line networks. Developed by the IEEE 802.16 Working Group.

WLAN

Wireless Local Area Network. Allows a mobile user to connect to a local area network (LAN) through a wireless connection. WLANs have been deployed in locations such as airports, universities, bookstores, coffee shops, office campuses and private residences.

WPAN

Wireless Personal Area Network. A computer network that wirelessly connects devices in a short range (about 30 feet), such as a mobile phone to a wireless mouse or keyboard. Bluetooth is a WPAN technology.

WWAN

Wireless Wide Area Network. Geographically separate computer networks joined through a wireless connection. A WWAN is similar to a WLAN (wireless local area network), but typically covers an entire metropolitan or nationwide area.

XML

eXtensible Markup Language. A computer language developed by the World Wide Web Consortium (W3C) designed to improve the functionality of the Internet by providing a more flexible way to share basic data, such as phone numbers or addresses. For example, XML may be used to share data between desktop computers and wireless devices.

Z

ZIF - a.k.a. Direct Conversion

Zero Intermediate Frequency. A radio frequency architecture that eliminates the entire intermediate frequency section of the cellular phone, resulting in smaller-sized wireless devices.