WIRELESS WAN

Resources

The Communication era is distinctly marked by major technology changes. From the conventional cable or wires, we are now traversing the technological domain with wireless networks. Internet as the core of communications plays the crucial role in everyday businesses. The Wide Area Network (WAN) is a network, which spans a wide geographic area and transmits data using common communication links. An enhanced form of wireless network that allows access to Web-based applications is the Wireless Wide Area Network (WWAN) sometimes called Wireless WAN or WAN wireless. Wireless WAN spans a broad area, to every region where the cellular service provider extends wireless coverage. This gives customers the advantage of accessing data from any location around the globe where cellular network coverage is present. The extensive coverage is offered by wireless service carriers through a wireless network infrastructure. **WAN Wireless provides the users with Internet access and other WAN applications from any location.** Wireless WAN employs two fundamental modes for transmitting data – Packet-switched Data Networks such as GPRS/CDPD and Circuit-switched dial-up connections. WWAN makes use of cellular network technologies for data transmission, which includes WIMAX, UMTS, CDMA, GSM, GPRS, CDPD, Mobitex, HSDPA or 3G. For connectivity to the Internet, LMDS and Wi-Fi technology is applied. The wireless service providers render cellular technologies on a regional, national or global level with usage charges on a monthly basis. The basic configuration of a Wireless WAN network would be a computer including a wireless WAN modem that links through radio waves with a base station on the wireless networks. The signal is then forwarded from the radio tower to a mobile switching center, where the data is transported to the proper network. Data communications are effected in the existing networks of organizations with the aid of Internet connectivity offered by the wireless service provider. Voice calls can be made over a wireless WAN since Wireless WANs employ cellular networks. It is possible to make voice calls and also simultaneously send data traffic along WAN Wireless networks through cellular telephones and WWAN PC Cards. The speed of WAN Wireless depends on the technology that is used. For instance, GPRS (General Packet Radio Service) networks allow over 115 kbps data rate when all the cell timeslots (8) are assigned for data transmission. However, most networks use 4 timeslots and the constant user data rate is 30-50 kbps. The voice traffic on the GPRS network is shared by these timeslots. In CDMA (Code Division Multiple Access) networks, the current throughput level has been increased to 153 kbps, making the voice capacity of the carrier's network to twice its original capacity. Technology is continuously being refined and the future Wireless WAN technology such as CDMA2000 1xEV-DO (2.4 Mbps data rates in a standard 1.25 MHz CDMA channel), and Wideband CDMA (WCDMA). WCDMA, also known as UMTS is capable of offering 2 Mbps data rates on a 5 MHz channel for voice and data. **A WAN Wireless makes the connectivity secure by integrating methods such as encryption and authentication.** In the beginning of this wireless technology evolution, research stated that the encryption techniques in early GSM technology was faulty, and hence had security risks. But over time and more enhancements to existing technology this deterrent was overcome. The advantages of wireless WANs include connectivity from anywhere, cost effectiveness, speed in connections, backup to landlines, easily installable network, and data connectivity for the mobile users. Wireless fidelity is the primary concern for users that rely on Wireless WAN for communication and business. Business continuity, the process of uninterrupted business operations amidst service outages, is the driving force behind the use of wireless WAN redundancy complementing existing Wide Area Networks. Wireless WAN gives the freedom to work from anywhere and considerably saves time. For instance, a laptop and a WWAN card lets a user browse through the Internet, send/receive email messages, or link up to a Virtual Private Network (VPN) from anyplace within the limits of the cellular service. WAN Wireless also facilitates remote access to an organization's network for email and other applications, and access to the Internet. The coverage of a WWAN is ubiquitous and data can be accessed from anywhere. The network is also secure due to protected encryption and authentication methods. On an Internet-dependent business society, technology solutions are crucial and are deployed in those large enterprises and companies that require a robust WAN infrastructure to ensure that the flow in business process is continuous.

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