

LAN WAN

Whether we are talking about wired or wireless networking, there is no doubt that this is a huge industry. Your bottom line is fixed to this industry simply because millions of computers are tied together, sharing information and processing data. The largest network, the Internet, has had, and will continue to have, a huge impact in every vertical market, as well as in *our* daily lives. The business world has become dependent on the ability to have access to information when needed, and the demands are only pushing for faster, more robust systems.

Local Area Networks (LAN) and Wide Area Networks (WAN) have become commonplace, whether they are connecting an office's computers together, or connecting multisite organizations across the world together. With the additional opportunities that wireless LAN (WLAN) and wireless WAN (WWAN) offer our networking, challenges and opportunities are more in the forefront than ever.

The excitement around wireless data communication has accelerated in the past few years. The ability for remote workers to be in constant contact with the enterprise and have access to almost any data has tremendous potential for productivity gains and cost reduction. From real-time status updates and emergency dispatch to inventory verification and credit card authorization, your organization can benefit in many ways. Understanding the benefits of mobile wireless communications is only the first step. What do you do next? The technology can be confusing and the choices can seem overwhelming.

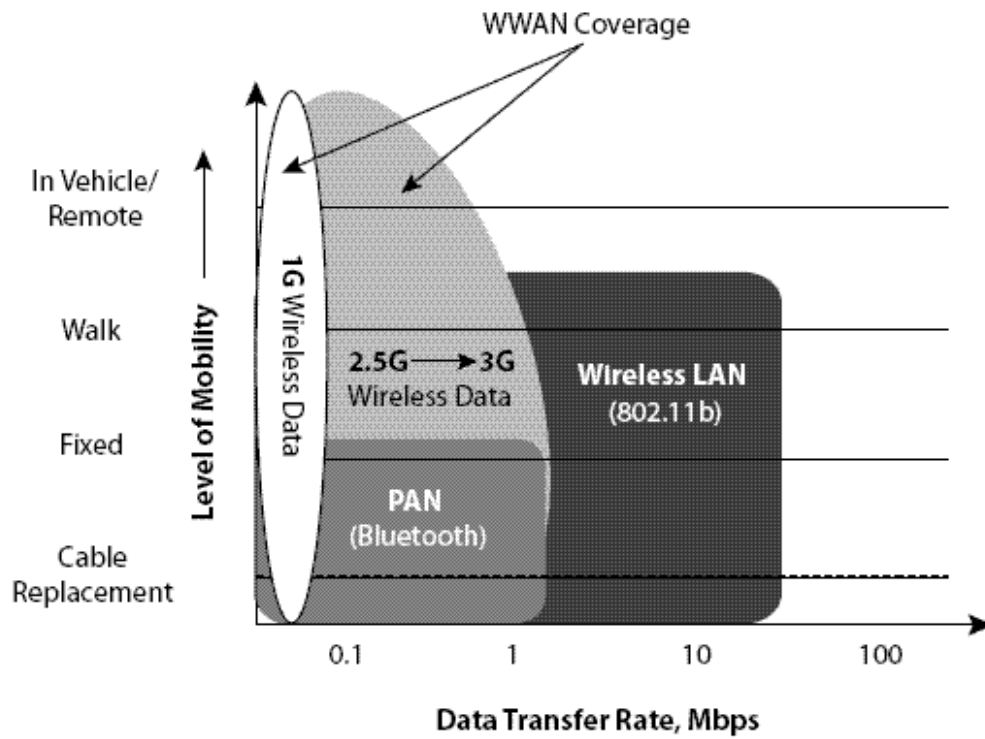
Wireless data is predominately transferred over two kinds of networks: wide area networks (WANs) and local area networks (LANs). These networks are similar to their wired counterparts – they just use radio waves instead of copper or fiber.

WWAN provides mobile communications to a worker over a large geographic territory using a system of switches and base stations or towers, generally maintained by a public entity and used on a fee basis. Examples of WWAN networks in the US are GPRS and CDMA services sold by companies like ATT Wireless, T-Mobile, Sprint PCS, Verizon, and Cingular.

WLAN is for a smaller footprint, typically in-building network coverage for areas such as a warehouse or yard, and requires the installation of access points to allow wireless devices to access the network. WWAN services require a contract with a carrier and purchase of the appropriate wireless capable device, but little investment in infrastructure. Fees are based on usage and are generally billed monthly. On the other hand, WLAN is generally a privately owned network and once the infrastructure is built, there is no ongoing fee for sending and receiving data. It also offers higher speed (10mb and higher) communications. The limitation is that it will only provide coverage while the mobile worker is within range (approximately 100 meters) of the access point. Common WLAN technologies are 802.11b and 802.11a and are sold by a number of companies.

When discussing wireless communications, there are three primary categories: Wireless Wide-Area Networking (WWAN), Wireless Local Area Networking (WLAN) and Wireless Personal Area Networking (PAN). Each has a different purpose and use. In general, usage is as follows:

Figure 1: Mobility vs. Wireless Network Technologies



(Intermec supplied part of the above information)