

WIRELESS LAN FOR A LIBRARY: ISSUES AND CHALLENGES

S. Ketheeswaren
Assistant Librarian,
University of Jaffna,
Sri Lanka

Sr. Ashritha
Librarian,
St. Teresa College,
Ernakulam

S. Rosilinmary
Professional Trainee,
Library, Bharathidasan
University, Trichy, India

B. Visvanath
Assistant Librarian,
Oxford Engineering
College, Trichy, India

ABSTRACT

Wireless LAN is an unguided data communication network within a boundary of place. Wireless communications offer organizations and users with many benefits such as portability and flexibility, increased productivity, and lower installation costs. This paper covers many concerns of the Emerging Wireless Technologies, classification of Wireless LAN, Emerging Benefits of Wireless Technology in Higher Education, Critical challenges of a Wireless LAN and needed wireless LAN Securities. This paper generally discusses the problems freshly emerged from wireless LAN when replacing the wireless LAN in the place of wired LAN and discusses the alternatives to the problems as well.

Keywords: *Wireless LAN, Unguided media, Wireless Data Communication*

Introduction

Wireless communications offer organizations and users with many benefits such as portability and flexibility, increased productivity, and lower installation costs. Wireless technologies cover a broad range of differing capabilities oriented toward different users and needs. Less wiring means greater flexibility, increased efficiency, and reduced wiring costs. Ad hoc networks, such as those enabled by Bluetooth, allow data synchronization with network systems and application sharing between devices. Bluetooth functionality also eliminates cables for printer and other peripheral device connections. Handheld devices such as personal digital assistants (PDA) and cell phones allow remote users to synchronize personal databases and provide access to network services such as wireless e-mail, Web browsing, and Internet access. However, risks are inherent in any wireless technology. Some of these risks are similar to those of wired networks; some are exacerbated by wireless connectivity.

Overview of Wireless Technologies

Wireless Networks

Wireless networks serve as the transport mechanism between devices and among devices and the traditional wired networks (enterprise networks and the Internet). Wireless networks are many and diverse but are frequently categorized into three groups based on their coverage range: Wireless Wide Area Networks (WWAN), Wireless Local Area Networks (WLAN), and Wireless Personal Area Networks (WPAN). WWAN includes wide

coverage area technologies such as HSDPA 2G, 3G or 3.5 G cellular, Cellular Digital Packet Data (CDPD), and Global System for Mobile Communications (GSM), and Mobitex. WLAN, representing wireless local area networks, includes 802.11 standards like wi-fi, HiperLAN, and several others. WPAN represents wireless personal area network technologies such as Bluetooth and IR. All of these technologies are “tether-less”—they receive and transmit information using electromagnetic (EM) waves.

Emerging Wireless Technologies

A lot of technologies have emerged in wireless networks. While wireless networking was a luxury a few years ago, it has turned into a necessity today. Some new features of 2008 include **Wireless USB and Bluetooth**. The USB standard is also getting a wireless makeover, giving us, predictably enough, Wireless USB (WUSB). It is based on the Ultra WideBand (UWB) platform, a short-range, high data-rate radio frequency transmission standard. Wireless USB is designed to give 110Mbps at distances up to 10 meters. Bluetooth 3.0 is currently also under development, being built on the UWB protocol. However, unlike WUSB, Bluetooth can use security to pair devices, which when coupled with the proposed 480Mbps transmission rate, could make it a serious contender for short-range peripheral connectivity. WirelessHD (WiHD) and Wireless HDMI (WHDI) are new technologies for transmitting High-Definition videos and audio signals from one device to another.