

# Security the biggest roadblock to increased adoption of wireless technologies

July 19 2004

---

Wireless technologies are increasingly moving into the spotlight with telecom operators expected to gradually evolve from existing 2G to next-generation 3G infrastructures.

3G wireless technologies promise speeds of up to 2 Mbps and support real-time access to sustain high-quality audio/video and other bandwidth-intensive business and consumer applications. However, the road to increased adoption of these technologies does not look easy.

To begin with, the weak security framework of wireless local area networks (WLANs) makes them particularly susceptible to virulent network attacks. Vendors have failed to build interoperable, highly secure enterprise WLANs, making this a huge challenge even today, three years after security concerns were first raised.

On the contrary, vendors only seem to have confused the end users by offering solutions that are complex, costly to implement, and often cumbersome to support.

Although consumers appear to be getting more comfortable with carrying out transactions online, many of them do not seem to feel the same way about wireless transactions. Security, therefore, continues to be a major issue for potential 3G providers as well as consumers beginning to use it.

"If manufacturers or license holders hope to receive any profits from their investments, they will first have to convince consumers that

wireless transactions are at least as secure as landline-based operations, if not more so," remarks Technical Insights Research Analyst Sathyaraj Radhakrishnan.

Apart from the lack of security, wireless technologies also have to contend with interference from neighboring wireless networks or devices sharing the same radio frequencies.

This problem is particularly evident on the congested 2.4 GHz frequency, with 802.11b and 802.11g networks sharing the same radio resources as Bluetooth, microwave ovens, cordless phone systems, baby monitors, and wireless video senders. This overloading is likely to affect the performance and range of 802.11b and 802.11g networks.

Similarly, these networks could impact other 2.4 GHz devices. For instance, wireless video senders often suffer from audio and video interference in the presence of 802.11b or 802.11g networks.

Additionally, there is a lack of standardization in wireless devices, which are manufactured by multiple vendors and run on different operating systems. Wireless devices often need to be supported in some combination of standards and operating systems.

However, while some of these combinations are similar, no two configurations have identical management interfaces. To add to these complications, operating system and hardware vendors continue to release new versions of hardware, software, device drivers, and applications.

Despite these challenges, the future of wireless technologies looks promising. Next-generation 3G technologies such as wideband code division multiplex access (WCDMA) and ultra wideband seem poised to revolutionize communication as we know it today.

WCDMA, for instance, has robust capabilities as it is built on open standards and has great potential in terms of wide-ranging mobile multimedia and economies of scale. Since it is evolved from existing global system for mobile communications (GSM) technology, operators can transition from 2G to 3G in a carefully managed manner without having to get rid of current infrastructure.

"With the move to 3G, operators' GSM equipment can continue to offer services and generate revenue within the WCDMA 3G network," says Radhakrishnan. "The old and the new technologies therefore complement each other, forming a highly flexible, seamless network system."

Wireless Technologies, part of the Information/Telecom Technology Vertical Subscription Service, reviews advances and breakthroughs in wireless technologies, highlighting those that can potentially revolutionize the world of telecommunications. Up-to-date information on the most important technological developments in this area can help participants understand trends that might affect market size and growth. The study also identifies promising commercial applications for these technologies. Executive summaries and interviews are available to the press.

If you are interested in an analysis overview which provide manufacturers, end-users and other industry participants an overview, summary, challenges and latest coverage of Wireless Technologies - then send an email to Julia Paulson – North American Corporate Communications at [jpaulson@frost.com](mailto:jpaulson@frost.com) with the following information: Full name, Company Name, Title, Contact Tel Number, Contact Fax Number, Email. Upon receipt of the above information, an overview will be emailed to you.

Source: [Technical Insights](#)

Citation: Security the biggest roadblock to increased adoption of wireless technologies (2004, July 19) retrieved 19 April 2024 from <https://phys.org/news/2004-07-biggest-roadblock-wireless-technologies.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.