

## **NMCI Industry Symposium – June 20-23, 2004 New Orleans**

**Presentation Abstract: “Wireless Security Solutions for DoD Networking Applications”** – Dr. Jim Pilgrim, Executive Director - Wireless Business, 3e Technologies International

Wireless LANs have evolved rapidly over the past 5 years, in part to meet the needs and growing interest of the corporate marketplace, and partly in response to increasing awareness of the need for wireless security. As the world grows smaller and more dangerous (not only because of terrorists but also because of corporate or national competition for an edge) leaders in the Wireless LAN industry have been working to evolve new solutions to taunting security problems.

This paper will discuss the dangers of unencrypted or poorly encrypted WLANs. Insight will be given on the state of certified DoD security solutions for WLANs, as well as the various security approaches and alternatives available. Relative strengths / weaknesses of wireless networking security will be critiqued as well as comparisons of cryptographic and algorithmic solutions to wireless network vulnerabilities. Overviews of highly secure networking applications will be shared as they relate to NIST approved crypto modules and available FIPS 140 Level 2 Validated solutions.

A number of plausible solutions are discussed which aim to solve the problem of WLAN security. Some of these are:

- Deploying a Virtual Private Network (VPN) with WEP
- Combining standard WEP functionality with IEEE 802.1x with or without a VPN
- Deploying the new WiFi Protected Access (WPA) standard for use within the enterprise and using VPN for public network (remote) access
- Deploying NIST certified FIPS 140-2 AES or 3DES (the U.S. Government standard) and, eventually, the 802.11i standard

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**Biography: Dr. Jim Pilgrim**  
**Executive Director - Wireless Business**  
**3e Technologies International**

Dr. Jim Pilgrim is instrumental in developing product management strategies, strategic alliances, and innovative products and solutions for 3e Technologies International (3eTI).

Dr. Pilgrim has over 18 years of experience in networking and telecommunications, including systems engineering, field engineering, engineering product development, product management, marketing analysis, sales support, and management, scientific, and technical consulting. As an entrepreneur, Dr. Pilgrim started and operated a consulting services business, which provided management and technical consulting services on telecommunications projects for the US Federal Government.

Prior to joining 3eTI, Dr. Pilgrim was the principal engineer for Alcatel (formerly Xylan) responsible for designing the IT-21 (ISNS) network initiative for the US Navy which is currently installed on 260 US Navy vessels today. At Alcatel Internetworking, Inc., Dr. Pilgrim was the Chief Technologist, where he directed product technology and related programs for PBX, PCX, voice services related equipment and applications as well as wireless and data equipment. Dr. Pilgrim has worked with the U.S. Air Force (Wright Patterson Air Force Base), the U.S. Marine Corps and the U.S. Army to design advanced communications systems with high degree's of security and protection.

Previously Dr. Pilgrim has run Sales, Marketing and Engineering for high tech firms in Silicon Valley California. Dr. Pilgrim regularly lectures at Major Universities throughout the country, and has appeared in World Business Review, Investor's Business Daily, Network World, NetFusion, and Forbes Magazine SkyRadio network.

Dr. Pilgrim has a BS degree in Electrical Engineering and a MS degree in Applied Mathematics from San Diego State University, and his Doctorate in Electrical Engineering from the University of Southern California.