

EXHIBIT 8

PTO/SB/16 (04-04)

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

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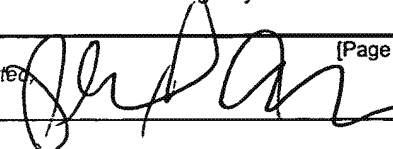
INVENTOR(S)				
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)		
Katelijn	Vleugels	San Carlos, CA		
<input type="checkbox"/> Additional inventors are being named on the separately numbered sheets attached hereto				
TITLE OF THE INVENTION (500 characters max)				
APPARATUS AND METHOD FOR INTEGRATING SHORT-RANGE WIRELESS PERSONAL AREA NETWORKS FOR A WIRELESS LOCAL AREA NETWORK INFRASTRUCTURE				
CORRESPONDENCE ADDRESS				
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ENCLOSED APPLICATION PARTS (check all that apply)				
<input checked="" type="checkbox"/> Specification Number of Pages	12	<input type="checkbox"/> CD(s), Number		
<input checked="" type="checkbox"/> Drawing(s) Number of Sheets	7	<input checked="" type="checkbox"/> Other (specify)	Postcard	
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76				
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT				
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.				
<input type="checkbox"/> A check or money order is enclosed to cover the filing fees				
<input checked="" type="checkbox"/> The Director is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: 20-1430				FILING FEE Amount (\$)
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.				100
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.				
<input checked="" type="checkbox"/> No.				
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are:				

[Page 1 of 1]

Respectfully submitted

Date March 14, 2005

SIGNATURE



REGISTRATION NO. 35,819

TYPED or PRINTED NAME Philip H. Albert

(if appropriate)

Docket Number: 025796-000200US

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USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

60443403 v1

Attorney Docket No.: 025796-000200US

PROVISIONAL PATENT APPLICATION

**APPARATUS AND METHOD FOR INTEGRATING SHORT-RANGE
WIRELESS PERSONAL AREA NETWORKS FOR A WIRELESS
LOCAL AREA NETWORK INFRASTRUCTURE**

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**APPARATUS AND METHOD FOR INTEGRATING SHORT-RANGE
WIRELESS PERSONAL AREA NETWORKS FOR A WIRELESS
LOCAL AREA NETWORK INFRASTRUCTURE**

FIELD OF THE INVENTION

5 The present invention generally relates to wireless communications. More particularly, the invention relates to seamlessly integrating short-range Wireless Personal Area Networks (WPANs) into longer-range Wireless Local Area Networks (WLANs).

BACKGROUND OF THE INVENTION

10 Figure 1 depicts some parameters associated with a few existing and emerging standards for wireless connectivity. Based on targeted range and supported data rates, these standards can be grouped into four categories: Wireless Wide Area Networks (WWAN), Wireless Metropolitan Area Networks (WMAN), Wireless Local Area Networks (WLAN) and Wireless Personal Area Networks (WPAN).

15 Wireless Local Area Network (WLAN) connectivity is specified by, in part, the IEEE 802.11 standard. The IEEE 802.11 specification uses unlicensed, free spectrum in either the 2.4GHz or 5GHz frequency bands, supporting data rates of up to 54 Megabits per second (Mbps) and ranges of 300 feet and more. The IEEE 802.11 standard, also known as Wi-Fi, was adopted several years ago, and is now being widely deployed for WLAN connectivity in homes, offices and public places like airports, coffee shops and university campuses.

20 The adoption and deployment of IEEE 802.11-compliant equipment has experienced tremendous growth in recent years. The majority of laptops manufactured today include a built-in wireless circuit compliant with some variant of the IEEE 802.11 standard. While originally devised for enabling wireless network connectivity (“wireless Ethernet”), WLAN connectivity based on the IEEE 802.11 standard is rapidly finding its way in new applications
25 like mobile phones - primarily driven by the adoption of Voice-over-IP (VoIP) - and consumer electronics (home entertainment, video streaming etc.). In addition, with the development of the new IEEE 802.11n specification, and the proliferation of citywide IEEE 802.11 deployment initiatives, the IEEE 802.11 standard is expanding into longer range applications.

Figure 2 illustrates a typical IEEE802.11 WLAN configuration in infrastructure mode 1. Although the IEEE 802.11 standard supports two modes of operation, namely ad-hoc mode and infrastructure mode, the infrastructure mode is used more often. In the infrastructure mode, a dedicated IEEE 802.11 wireless circuit, also called an access point (AP), is necessary for and manages an infrastructure network. AP 2 is configured specifically to coordinate the activities of the infrastructure network and to enable connectivity to, for example, the Internet or other WLANs via an Internet router 3, which may be disposed in AP 2. Other IEEE 802.11-compliant wireless circuits, hereafter alternatively referred to as stations (STAs) 4 can become a member of the infrastructure network by going through an authentication and association procedure. Additional security procedures may be required as well. Once associated with the infrastructure network, a STA 4 can communicate with AP 2. A STA 4 may communicate with other STAs 4 of infrastructure network 1 via AP 2. Furthermore, a STA 4 may communicate with STAs of other infrastructure networks (not shown) via AP 2. On a regular basis, the STAs listen to the beacons and pending traffic from the AP 2.

In contrast to WLAN, no such unifying standard exists for WPAN. Instead, a number of proprietary and standardized communication protocols have been and are being developed for establishing short-range WPAN connectivity. Standardized protocols include the Bluetooth specification (based on the IEEE 802.15.1 standard), the recently approved Zigbee specification (based on the IEEE 802.15.4 standard), and the Ultra-Wideband (UWB) specification which is still under development. In addition, there are several proprietary protocols in the unlicensed 27MHz, 900MHz, and 2.4GHz frequency bands developed for the sole purpose of providing short-range wireless connectivity. Examples include Cypress Semiconductor's proprietary wireless USB solution, or Logitech's proprietary FastRF solution. The lack of a unified standard is hindering the widespread adoption of WPAN technologies. In addition, several WPAN communication protocols co-exist in the same 2.4-GHz frequency band as a commonly used version of the WLAN protocol. Because they use different methods of accessing the wireless medium, and are not synchronized with one another, severe interference may result when devices conforming to such standards are made to co-exist and are positioned in the same physical vicinity.

One alternative for avoiding the above mentioned problems when seeking to establish interoperability between WPAN and WLAN networks, is to use network interface circuitry based on the WLAN protocol in WPAN STAs. However, the power dissipation of the resulting STA would be several orders of magnitude higher than what is acceptable in typical

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