

By Using “Layering” Airports Can Finally Own Revenue Share in Wireless Traffic

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Bluesocket

Wi-Fi Hotspots Represent New Opportunities for Wireless Public Internet Access

We are entering the age of wireless Internet where the handheld and portable devices we all carry have the ability to go online wirelessly from almost anywhere.

As wireless carriers work to upgrade their networks to deliver high speed wireless data capability they find themselves facing new competition from a Wireless LAN technology called 802.11b. Also known as Wi-Fi, this technology is used to deliver “hotspots” of service which are being deployed to provide laptop and PDA users with high speed wireless Internet access in locations such as airport frequent flier lounges, cafes, hotels and conference centers.

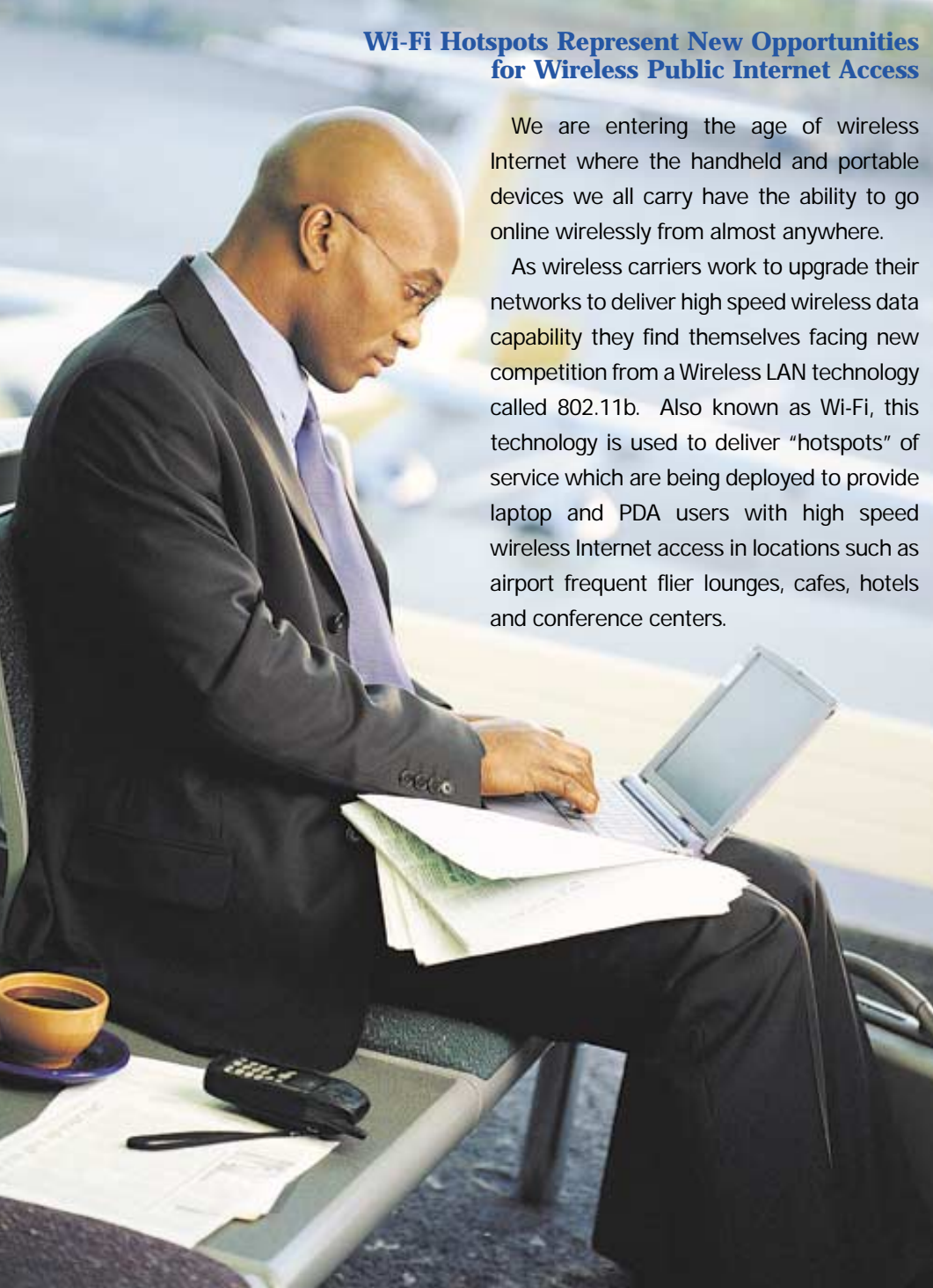
And, at a time when telecom growth has slowed in many sectors, hotspot growth and forecasts remain strong. According to a recent report from In-Stat/MDR, a recognized research group in wireless, it is estimated that the number of Wi-Fi locations available for public access will grow worldwide from 2,000 last year to 42,000 in 2006, with service revenues experiencing a corresponding growth, reaching \$642.6 million in 2006, up from \$11.3 million last year.

Tony Crabtree, principal analyst with Juniper Research, said recently in Thinkmobile, an Internet based news service, “The ability of 802.11, and other WLAN technologies, to provide ‘last mile,’ and public hotspot access, has catapulted the technology to the forefront of both the broadband and mobile Internet sectors”.

“It is the simplicity of Wireless LAN that makes the technology so attractive, with no licenses to win (or pay for), no nationwide infrastructure to build (or pay for), and no significant technology risks to gamble. The equipment is standards-based, very low cost (relatively) and simple to deploy, producing an attractive business case.”

Wi-Fi Hotspot Revenue Opportunities for Airports

Given the business and enterprise nature of early adopters of wireless Internet services and the frequency in which they visit and spend idle time at



airports it is no surprise that airports are prime locations for Wi-Fi hotspots and wireless Internet service.

Deploying 802.11b Wi-Fi hotspots finally allows location owners such as airports an opportunity to implement public wireless data networks in their own space and to guarantee their share in the revenues generated from wireless use on their premises.

Airport Wi-Fi Hotspot Implementation Challenges

Airports face challenges as they contemplate Wi-Fi deployment. They must coordinate management and delivery of wireless services to a complex set of potential and sometimes existing wireless LAN customers. In addition to public hotspot users, many airport businesses and applications may require access to wireless LAN or Internet capability including airlines; concessionaires for their POS terminals; baggage handling systems; an ARINC system under development that uses 802.11b to exchange information with aircraft at the gates; and even vending machines and wireless enabled billboards and FIDs.

Until recently, serving multiple Wireless LAN users in one "space" each of whom require separate secure service has presented an almost impossible challenge.

Implementation of 802.11b technology doesn't lend itself well to installation of multiple overlapping networks in a given location and each of the separate applications and user groups has unique security and bandwidth/throughput

requirements which would have been impossible to manage and deliver over one network – until the advent of Layering.

Multiple Users Maintain Secure Service

"Layering" uses a Wireless Gateway developed by a company called Bluesocket [www.Bluesocket.com] to partition the capacity or bandwidth of a single Wireless LAN network so that it can be used to provide secure, independent service to multiple user groups.

The Bluesocket Wireless Gateway recognizes and differentiates between authorized users from the different airport based groups and applications and business traveler public "hotspot" users.

Airport based users can receive secure service – encrypted using the latest Ipsec technology – with their communications operating over guaranteed bandwidth that is securely separated from transmissions of other airport users and visitors sharing the Wireless LAN network.

Airport visitors and business travelers etc are directed to a Wireless ISP login screen and experience typical public hotspot service.

In this way "Layering" addresses issues and concerns of airport based users like airlines regarding security of their information and guaranteed bandwidth or the ability to communicate no matter how many public users or users from other airport groups are active on the network.

Joost de Jong, the worldwide vice president of sales for Bluesocket explains, "The Bluesocket Wireless Gateway

assigns roles for different groups of users on the Wi-Fi network. Each role or group of users is given different access privileges and capabilities – as we have seen already in [university] campus implementations where there is a similar need to airports, for a split between user groups [such as executive administration, faculty and students on campus]".

Different Business Models Supported

From a business or commercial perspective, Layering simply makes sense. After all, it is well known that from a technical perspective it is more practical to consider implementing one shared 802.11b network in each space than to try and deploy multiple overlapping Wi-Fi networks.

The Bluesocket approach can be used regardless of which business model an airport chooses for wireless deployment, i.e. the airport can choose to implement Wi-Fi itself, either as a standalone Wireless LAN, or as part of an integrated indoor wireless platform solution such as Foxcom Wireless [www.foxcomwireless.com]. Or the airport can opt for an outsourcing model through a company such as Concourse Communications [www.concoursecommunications.com].

Security Protected, Bandwidth Management Intact

The thought of letting public users and competitors share the airwaves with airline or other airport business users is perhaps



Bluesocket WG-2000 Wireless Gateway: a gateway appliance that manages and secures access by wireless devices to wireless networks



scary for many IT managers as this has historically raised security and bandwidth management concerns and issues.

Security concerns are addressed by the Bluesocket Gateway that manages the subnet of access points, and assigns different roles to different groups or classes of users. One of these roles is designated for visitors who are blocked from accessing the enterprise systems and are channeled to and through the hotspot gateway software. The Bluesocket Gateway can also do wireless link encryption (supporting IPSec and PPTP encrypted tunnels) and authentication using a built-in database or links to existing RADIUS servers.

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While security is an issue that most Wireless LAN managers are aware of and are addressing independently from “Layering” opportunities, the bandwidth management features offered by Bluesocket are also worthy to note. This capability is essential to ensure that airport based users and applications are not compromised by visitor traffic. It has the added benefit in that it can also be used to separate and differentiate between different user groups and applications – offering each a guaranteed independent bandwidth allocation.

De Jong explains, “The Bluesocket Gateway also provides role-based bandwidth management – allocating a maximum bandwidth to each role and

ensuring that one user group doesn’t get a chance to dominate the system capacity or degrade service speed and quality for other users. Roles can be allocated by time-of-day profiles to account for variances in core business traffic and public hot spot bandwidth demand.”

Lastly, in addition to the security and bandwidth management features the Bluesocket Wireless Gateway also facilitates sub-net roaming which allows wireless users to move around the airport without needing to re-authenticate each time they change access points. This feature is useful for supporting mobile data communications for security personnel etc.

Successful Installation in Many Public Areas

Many colleges have already successfully installed Bluesocket gateway solutions to provide security and separation between faculty and student users, and bandwidth management to ensure that students don’t decimate capacity or adversely affect network performance with their MP3 downloads, etc. By reconfiguring the Bluesocket Gateway roles, it’s a simple administrative task to add an additional user classification or layer to the network that is easily activated as a revenue-shared public hot spot by partnering with a wireless ISP such as Deep Blue Wireless.

Alan Gale, CEO of Wireless ISP Deep Blue Wireless explains, “By Layering a public hotspot onto a campus or an airport Wireless LAN we achieve two things. It provides a useful public service to those who cannot afford or don’t have access to their own dedicated high-speed Internet connection, and for road warriors and business travelers who are away from their home offices. The campus or airport also earns revenue share from the use of their Wireless LAN.

Gale goes on to say, “As a Wireless ISP – We handle all of the customer relationship management (CRM) needs, including automated credit card billing, authentication and customer support, as well as facilitating roaming with other Wi-

Fi public hotspot service providers. The proposition for the campus or airport is to extend their Wireless LAN network to public areas and visiting guests/vendors/consultants, and receive revenue share checks with no added cost or responsibilities.”

The Future of Wireless at Airports

With Layering, regardless of which business approach airports adopt for wireless implementation, airports can at least move ahead on the implementation of revenue generating Wi-Fi Wireless LAN’s for their tenants and provide public hotspots of wireless service, which business travelers are coming to expect. It’s a pity things aren’t immediately this easy to manage on the cellular front.

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Upcoming Meetings



It has been confirmed that the upcoming Embry-Riddle/ACI-NA Concessions Analysis Seminar will be held at the Hyatt Regency in Jersey City on October 9th through the 11th. To register, call ACI-NA at (202) 293-8500. More information is forthcoming on reserving hotel rooms.