Tata Infotech played a pivotal role in making Barista Espresso Bar a Hot Spot.

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Network connectivity, anywhere, anytime, has always been a requirement for the mobile professional. Till a few years ago, this meant that one had to be connected to a network through wired LAN (Local Area Network) or through dial-up modems.

WLAN (Wireless Local Area Networks) have changed the scenario drastically in the last few years. So popular has been its growth and acceptance, that the WLAN technology is now referred to as WiFi, in line with the popular word HiFi

The phenomenal popularity of the WiFi in the coffee shop or hotel setting has been responsible for these outlets being called the 'Hot Spot' where people on the move can quickly access Internet while relaxing over a hot cup of coffee.

Technology Basics

In a typical WLAN configuration, a transmitter/receiver (transceiver) device, called an *access point,* connects to the wired network from a fixed location using standard Ethernet cable. At a minimum, the access point receives, buffers, and transmits data between the WLAN and the wired network infrastructure. In addition it can implement more advanced protocols to provide security, manageability and configurability to make it more intelligent.

End users access the WLAN through wireless LAN adapters, which are implemented as PC cards in notebook computers, or use ISA or PCI adapters in desktop computers, or fully integrated devices within handheld computers.

There are three main standards for Wireless LANs: 802.11b, 802.11a, 802.11g. All the other 802.11 standards are addendum to these three. The 802.11b is the dominant standard with 11-Mbps data rates in the 2.4GHz band. The 802.11a is the follow-up standard that is capable of reaching 54-Mbps rates in the 5GHz range.

The 802.11a is expected to become the de facto standard in the long term. The proposed 802.11g standard increases data rates to 54 Mbps in the 2.4GHz band and is compatible with 802.11b. The 802.11b, 802.11a and 802.11g can all operate in the same environment without causing interference with each other.

Customer Considerations

From the point of view of the Hot Spot customer, who will actually use the WiFI network, range, ease of use, reliability, security and cost are the important considerations that make his experience a friendly one.

Range defines where he has to sit to get a good connection and is driven by the access point characteristics as well as the physical characteristics of the site i.e. walls, corners and pillars. Ease of use means that detection and initial connection to the WiFi network should be automatic that does not require the user to go through a complicated procedure to establish connection.

Security is important to ensure privacy of user communication. At present, it is implemented through the use of 40 bit WEP (Wired Equivalent Protection) protocol. The recently adopted 802.1X standard based on EAP (Extensible Authentication Protocol) is being widely adopted by the industry as a means of overcoming the shortcomings of WEP.

Case Study of Barista

The entry of giant carriers like Verizon and Sprint into providing Hot Spots clearly demonstrates that the greatest opportunity to ride the WiFi wave could potentially be with the cellular providers, because it will help them drive consumers to the data usage model.

Tata Indicom a leading provider of ISP and public telecommunication services in India providing Local Access, Broadband, and Internet services in multiple locations in India. Tata Indicom chose the Barista chain of coffes shops as the launch pad for the WiFi services. .   Tata Indicom partnered with Tata Infotech to roll-out WiFi Hot-Spots across the country.

Barista Espresso Bars thus become Hot Spots where Barista customers will be able to access high-speed, wire-free, Internet while enjoying coffee. Tata Indicom will also offer wireless LAN cards, which allow Barista customers to enable their laptops to surf the Net. To avail of Tata Indicom`s facility, subscribers need a Wi-Fi compatible laptop or handheld. In case a customer`s laptop is not already WiFi enabled, the same can be enabled by fitting a WiFi card, which may be borrowed from Barista outlets. Laptops can also be borrowed on a returnable basis.

Prior to rolling out hotspots at Barista the following activities were carried out.

- Preparing of a roadmap and countrywide plan for the Wireless LAN service. This required careful selection of participating organizations and judging their suitability for the required service offerings

- Designing the Architecture of WiFi Hot Spots. Centralized management, integration with current systems and infrastructure and business models for revenue generation need to be considered here.

- Carrying out a RF Survey and Site Survey for these WiFi Hot-spots. This is important to determine the required number of Access Points and their location to provide optimum coverage in the premises.

- Vendor Selection for the hardware. Vendor reputation, performance benchmarks, wide choice of related system components and a good support network are some of the parameters on which a vendor needs to be rated.

- Supplying, Installing, Commissioning and Supporting the WiFi infrastructure comprising of Access Points, Gateway Routers, Service Manager and AAA Server. This phase also consists of integrating existing/new Billing Application of the Carrier.

A reputed Systems Integrator who has the core technical knowledge of the WiFi field as well as experience of designing and commissioning large systems of all types best performs these activities

The first hot spot went live at Barista on June 14 , 2003. More than a dozen hotspots have been rolled out. The number is expected to increase to about 100 by the end of the year.