



"Many enterprises now have established Wi-Fi networks and integrating voice-over-Wi-Fi functionality is a natural progression"

Phil Solis, Senior Wi-Fi Analyst at ABI Research, Oyster Bay, NY, April 22, 2004

Voice goes Wi-Fi

Civilizations are defined by their ability to communicate. Every major invention in the art of communication marked a revolutionary step in the development of the human race. From the invention of the telephone to VOIP, telecommunication has come a long way. The year 2003 saw the rise of VOIP as a feasible and inexpensive alternative to POTS and cellular technologies. As we have seen in the past, every time there is a wired means to transfer data, the wireless version of the technology follows.

In 2004 we are seeing the convergence of Wi-Fi and VOIP to evolve a new technology which has been variously described as Voice over Wi-Fi (VoWiFi), Voice over Wireless LAN (VoWLAN), Voice over Wireless IP (VoWIP), Wireless Voice over IP (WVoIP), Voice over IP over Wireless LAN (VoIPoWLAN), Mobile VoIP and Wi-Fi Telephony.

Issues and Challenges

A familiar problem many companies face today is accessibility. Employees who work in areas where there is no cellular coverage cannot be reached. This adversely affects productivity. VoWLAN provides a solution to this problem. A company can setup an enterprise-wide Wi-Fi network used to deploy VOIP wirelessly. Successful deployment requires a comprehensive wireless coverage to enable all users in the organization to be connected at all times.

Unlike data traffic, voice traffic is very sensitive to connection and latency issues. A thorough site survey is required to plan a good deployment strategy. The latency factor requires the voice traffic to have uncontained connections. Thus, manufactures specify and limit the number of connections at an access point to seven simultaneous connections even though VoWLAN does not require a very high bandwidth. However, solutions are available with deployment strategies which can accommodate up to 30 connections.

Future Trends

'ON World' projects a market growth of 83% for VoWLAN handsets by 2007 and a Wi-Fi equipment market growth of 40% for the next five years. Newer technologies and standards in Wi-Fi and VOIP are emerging which will open doors to a whole array of applications for VoWLAN. With the development of standards like WiMAX and SIP and standardization of VOIP, cellular vendors are recognizing VoWLAN as a value-added feature, rather than a competitor, to their cellular phones.



Customers will use VoWLAN and cellular technologies interchangeably. When they work in Wi-Fi hotspots they will take advantage of VoWLAN and make low cost calls world-wide. Outside the Wi-Fi envelope, they can take advantage of the mobility and coverage of traditional cell phone technologies.

Enterprises can substantially reduce their costs on phone calls by using VoWLAN. When an employee is within a Wi-Fi zone, he can connect to the VoWLAN server in the company using his Wi-Fi enabled device and make a long distant call over the Internet. This would not only save the company money, but it makes the employee more accessible thus increasing productivity and saving valuable time and money.

Summary

Today, Wi-Fi is a dynamic and growing market establishing its presence in both home and enterprise. Wireless-enabled devices like laptops, handhelds and even cellular phones are becoming increasingly popular with more than 850 million Wi-Fi-enabled cell phones expected to be shipped by the year 2009.

VoWLAN is a new era in the evolution of personal mobile communication. Market potential and emerging technologies have driven many companies to plunge into the VoWiFi wave. Among the leading vendors are Cisco, Nortel Networks, SpectraLink, Symbol Technologies, Telesym, Texas Instruments, and Vocera.

The huge market, converging technologies, emerging technologies and value added application are the driving forces which are making VoWLAN the solution of the future.

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