

Wi-Fi extends to Voice over Wi-Fi (VoWi-Fi), allowing users to make and receive voice calls over their Wi-Fi Networks

Voice over Wi-Fi is currently one of the most exciting areas of growth in the Wi-Fi industry. With half a billion estimated users worldwide Wi-Fi has evolved into a wireless technology that supports a wide range of devices and applications. At the same time, the growing popularity of Voice over Internet Protocol (VoIP) solutions, such as those offered by Skype™ and Vonage™, has increased the demand for client devices that can support these multifunction voice-based devices, allowing people to communicate and multitask with a freedom, flexibility and productivity never before possible.

Wi-Fi CERTIFIED Voice-Personal Program to ensure voice performance and quality

Today's consumers are demanding and require the same level of performance and quality from VoIP applications to which they have become accustomed with traditional voice devices and applications. These are challenging expectations since voice is an application that has unique requirements due to its high sensitivity to network delays. In particular, voice calls are extremely sensitive to latency, jitter and packet loss. Moreover, they must coexist with bandwidth-intensive data applications in the same network. A single Wi-Fi network may simultaneously support phones, laptops, gaming devices and printers, with each device transmitting data, audio, voice, video or some combination of these traffic types. For this reason it is extremely important that Wi-Fi devices delivering voice services meet application-specific requirements to provide a good user experience across all applications.

Therefore, to optimize the overall network performance while providing consistent and reliable support for Voice over Wi-Fi applications, it has been defined that voice traffic is to be prioritized over data, audio, or video traffic.

Over the last few years, manufacturers have expanded and enhanced voice functionality in their new Wi-Fi-enabled devices to meet user demand and to accelerate the growth of the market for Voice over Wi-Fi. More than 500 million Wi-Fi enabled handsets are predicted to be sold in 2012. Companies everywhere are adding Wi-Fi enabled WLAN's to their wired local area networks to achieve tremendous efficiency gains and lower costs by enabling employees to cut the cord that binds them to desktop voice and data applications. With the increasing number of wireless hot spots the infrastructure to support fully integrated Wi-Fi voice access is quickly falling into place.

The Wi-Fi Alliance is now taking a further step in helping to ensure good voice quality by introducing the Wi-Fi CERTIFIED Voice-Personal program. The program addresses the specific requirements of voice applications, requiring client devices and access points to meet the appropriate performance levels to ensure good voice quality.

The Voice-Personal program is the first application specific program from the Wi-Fi Alliance. It complements and builds on existing certification programs for the 802.11 standard's baseline, security and multimedia functionality.

Devices that complete the Voice-Personal testing will help provide consistent, good quality Voice over Wi-Fi calls in home and office environments with a substantial traffic load. To ensure that devices and access points meet the performance requirements of real-life scenarios, certification tests are based on typical network as seen in a home or small office, in which one access point manages multiple client devices and concurrent voice calls.

**More details about the
Wi-Fi CERTIFIED
Voice-Personal program...**



What is Wi-Fi CERTIFIED?

The Wi-Fi CERTIFIED programs are developed and managed by the **Wi-Fi Alliance**, a non-profit international trade association representing the entire Wi-Fi ecosystem with a membership exceeding 300 companies in more than 20 countries. Since the launch of the program in 2000, more than 4,300 products have achieved Wi-Fi CERTIFIED designation from testing conducted in one of 13 independent Authorized Test Laboratories worldwide.

Wi-Fi®, Wi-Fi Alliance®, the Wi-Fi logo as well as the Wi-Fi CERTIFIED logo are registered trademarks of the Wi-Fi Alliance.

Wi-Fi CERTIFIED products offer users, manufacturers, operators and application developers following guarantees:

- > Basic connectivity
- > Security
- > Authentication
- > Quality of Service (QoS)
- > Interoperability between products of different manufacturers
- > Backward compatibility with Wi-Fi CERTIFIED products already in the market

**Learn more about the
Wi-Fi CERTIFIED programs
of the Wi-Fi Alliance...**

CETECOM ICT Services is recognized by the Wi-Fi Alliance as an Authorized Test Laboratory.

Given the high pace at which Wi-Fi applications are currently developing, manufacturers are strongly recommended to have their Wi-Fi enabled devices and access points tested by a Wi-Fi Authorized Test Laboratory such as CETECOM ICT Services!



**Contact CETECOM ICT Services
for more information on the
Wi-Fi CERTIFIED programs!**

The Wi-Fi CERTIFIED Voice-Personal Certification Program

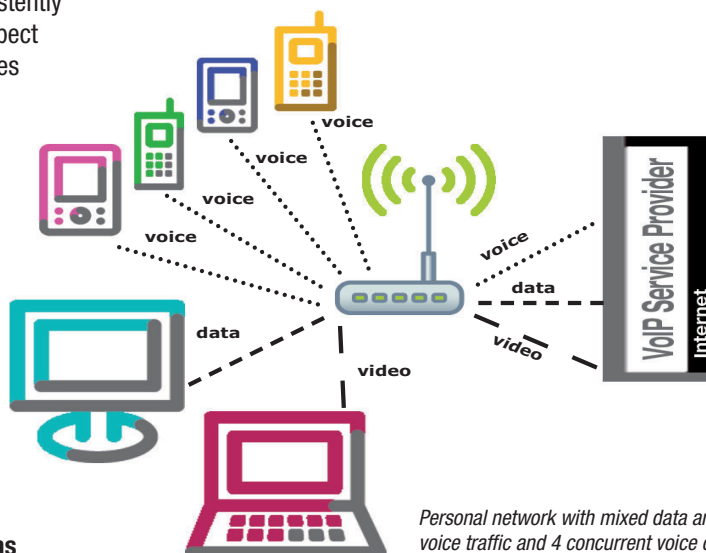
Wi-Fi CERTIFIED Voice-Personal devices enable users to consistently make high-quality voice calls with the same convenience they expect from VoIP and data over Wi-Fi applications. To help to ensure devices and access points meet the performance requirement of real-life scenarios, certification tests are based on a typical network with a substantial traffic load.

The test network for the Voice-Personal Certification Program consists of:

- > A single access point serving multiple clients with mixed data and voice traffic.
- > Supports at least 4 simultaneous simulated voice calls.

All Wi-Fi CERTIFIED products receive certification under mandatory programs that cover basic functionality, such as IEEE 802.11 baseline interoperability and security. In addition, the Wi-Fi Alliance offers optional certification programs focused on the specific functionality only required by devices or applications.

Wi-Fi CERTIFIED Voice-Personal is an optional program open to Wi-Fi Alliance members with client devices or access points that have already been Wi-Fi CERTIFIED the certification programs referring to the 802.11 baseline standards, security and multimedia functionality. This implies that all products submitted for the Wi-Fi Certified Voice-Personal Certification Program must comply with the first 4 standards listed below.



Personal network with mixed data and voice traffic and 4 concurrent voice calls



Users can easily identify Wi-Fi CERTIFIED equipment by locating the Wi-Fi CERTIFIED logo on the product packaging, which includes information about the baseline certification received.

CETECOM ICT Services is accredited by the Wi-Fi Alliance for conducting the following Certification Programs:

Wi-Fi Alliance Certification Program	Category	Functionality	Wi-Fi CERTIFIED LOGO
WPA2 Wi-Fi Protected Access 2 (Personal / Enterprise)	Security	Provide strong security mechanisms. WPA2 Personal for residential or latency-sensitive applications; WPA2 Enterprise for corporate networks.	
802.11 n > 5 GHz + 2,4 GHz draft 2.0	IEEE 802.11 baseline	Using MIMO (Multiple-Input Multiple-Output technology) to provide dramatically improved throughput and range.	
WMM Wi-Fi Multimedia	Multimedia	Voice and multimedia applications are prioritized over data traffic such as email or Internet surfing. WMM is required for 802.11n draft 2.0	
WMM Power Save	Multimedia	Helps conserving power for battery-operated devices by increasing the time the client device spends in sleep mode.	
Wi-Fi Protected Setup	Security	Helps users to easily configure a network with security protection (initial network setup); additional clients can easily be added.	
Voice-Personal	Application	Enhanced support for voice applications in small business networks that include one access point, mixed voice and data traffic from multiple devices.	
Voice-Enterprise (expected from 2010)	Application	Enhances support for voice application in enterprise networks that consist of multiple access points.	

IMPRESSUM

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Avoid unnecessary modification cost and ensure a guaranteed quality and interoperability of your Wi-Fi device or access point through the Certification Program of an authorized Wi-Fi Test laboratory. CETECOM ICT Services will be glad to provide support for an easy and successful market access of your Wi-Fi product!