

Ascom FreeNET System

The complete, standards-based Voice over Wireless Fidelity (VoWiFi) communications solution.



On-site wireless communication
for quicker response

ascom

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Ascom VoWiFi introduction

The Ascom FreeNET VoWiFi standards-based solution consists of market-specific WLAN portable handsets, a robust messaging system, VoIP Gateway for integration with an existing circuit-switched PBX and supports the following IEEE standards.

IEEE 802.11b

These devices operate in the unlicensed ISM band of 2.4 to 2.4835 GHz with a maximum theoretical bandwidth of 11 Mbit/s.

IEEE 802.11g

These devices operate in the unlicensed ISM band of 2.4 to 2.4835 GHz with a maximum theoretical bandwidth of 54 Mbit/s and are backward compatible with 802.11b networks.

IEEE 802.11e (QoS)

Quality-of-service is the control of bandwidth and traffic loss. The 802.11e specification adds QoS to WLANs by prioritizing data, voice, video and audio transmissions and also specifies enhanced error-correcting mechanisms in the Media Access Control (MAC) layer to improve delay sensitive voice traffic.

IEEE 802.11i (Security)

This standard consists of Wi-Fi Protected Access (WPA) and Robust Security Network (RSN). WPA uses Temporal Key Integrity Protocol (TKIP) to improve security cipher keys. RSN uses dynamic negotiation of authentication and encryption algorithms between APs and mobile devices.

The components of the FreeNET system are the VoIP Gateway, the i75 portable handset, the Integrated Message Server (IMS/IP) and the Portable Device Manager (PDM).

VoIP Gateway

The FreeNET VoIP Gateway enables seamless integration with a circuit-switched PBX or public-switched telephone network (PSTN) to provide high quality voice communication between the FreeNET portable handsets and any other telephone. Containing two T1 or E1 interfaces, the VoIP Gateway supports QSIG, NI-2, 5ESS, DMS100 ISDN and E&M CAS protocols, in addition to performing handset registration and call routing to optimize channel usage. The FreeNET VoIP Gateway is designed for enterprise environments and contains no moving components. Gateways can be stacked to optimize the grade of service to the PBX, while maintaining a single browser-based management application.

The FreeNET VoIP Gateway provides advanced digital telephony services for over 1,000 FreeNET portable handsets and can support these features:

- Name and number call line identification
- Hold
- Transfer with and without consultation
- 3 party conference
- Call waiting notification
- Diversion with redirection identification
- Message waiting notification



FreeNET portable handsets

The rugged, clinical-grade i75 Medic™ portable handset is resistant to solvents and features a hands-free mode and large display. Equipped with a push button alarm to quickly contact team members, the i75 Medic portable handset also boasts three programmable soft keys and four-way navigation to ensure the most important functions are always readily available.

The durable i75 Protector™ portable handset for industrial environments has personal security features such as a push button alarm, no-movement alarm and a man-down alarm. The i75 Protector portable handset also includes three programmable soft keys and the ability for instant team communication.

Portable Device Manager

The Ascom PDM is a software application that provides firmware updates via a USB cradle or over-the-air. The PDM allows users to utilize any FreeNET portable handset to access their personal configuration settings. Portable handset replacement is facilitated by the central storage of configuration information.

WLAN interoperability

The Ascom FreeNET VoWiFi solution supports various enterprise WLAN systems following IEEE standards. For optimum quality and feature support, WLAN products need to be certified with the FreeNET system. Please contact an Ascom Regional Channel Manager for a list of certified WLAN systems.

Messaging capabilities

An Integrated Message Server allows seamless integration with the Ascom UNITE Messaging Suite. This allows the Ascom Communications Server to transmit messages, in addition to receiving responses and actions while providing a complete audit trail. The UNITE Messaging Suite can also receive alarms and mobile data from the Medic and Protector portable handsets. The FreeNET VoWiFi solution has a two-way messaging architecture for extremely robust, high delivery throughput for single and broadcast messaging.

The i75 Protector supports interactive messaging for integration with industrial manufacturing systems and OPC interfaces. The smart integration provided by the UNITE Messaging Suite with prioritized messaging and alert tones as well as instant message display, enable quicker response. The i75 portable handset soft keys can be defined within the message and feature read receipt acknowledgement, message escalation and telephony call initiation.

For more information

To learn more about the benefits of the Ascom FreeNET VoWiFi standards-based solution, visit ascomwireless.com or call 877-71ASC0M.

FreeNET i75 VoWiFi portable handset	
Hands-free	✓
Headset	✓
Messaging	✓
Interactive messaging	✓
Mobile alarms	✓
Personal and central phonebook	✓
Built-in vibration	✓
Three programmable soft keys	✓
Over-air software updates	✓
Illuminated display	✓
Illuminated keypad	✓
4-way navigation	✓





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Ascom is the Americas' market leading provider of on-site wireless communication solutions, bringing smart integration to existing systems which enables greater freedom of movement, better service and increased safety in the workplace. Ascom on-site wireless solutions make existing systems work smarter through the integration of complementing, not competing, technologies. Because Ascom is not limited to one particular technology, the Ascom solution analysts can customize unique solutions to meet an organization's needs, helping to create a road map for the long-term goal of an all-digital, wireless facility.

Based in Research Triangle Park, North Carolina, Ascom US Inc. is a part of the Swiss Ascom Group, an international solution provider with comprehensive technological know-how specializing in wireless solutions (high-value on-site communications solutions) and security solutions (applications for security, communication, automation and control systems for infrastructure operators, public security institutions and the army).