

CUTTING EDGE IS

iPAS[™]

WIRELESS LOCAL LOOP SOLUTIONS



THE WORLD'S LEADING WIRELESS LOCAL ACCESS SOLUTION PROVIDING A RICH ARRAY OF VOICE, DATA AND VALUE ADDED CONTENT SERVICES.

- Addresses customers without traditional copper wire or cellular infrastructure
- Accesses price sensitive consumers unavailable to the pricing models of other wireless technologies
- Provides wired line services in addition to mixed wireless from a single platform
- Enables rapid, simple deployment of an industry-proven platform
- Scales to the largest networks with a flexible, modular solution via open interfaces



WIRELESS LOCAL LOOP SOLUTIONS



iPAS™ is a reliable and cost-effective system that rapidly delivers high-quality wireless voice, data and Internet services – along with various value-added services, such as short message service, missed call notification, location-based service, email, content based service, etc. – to high-demand urban or suburban areas.

UTSTARCOM WIRELESS SOLUTION

UTStarcom's Personal Access System (iPAS) is a Mobile Local Loop (MLL) based personal wireless access system that provides connectivity between the end user and the local switching center (local loop or 'last mile') where traditionally, copper wires had been used to connect these locations. iPAS is rapidly emerging as the dominant global wireless local loop technology.

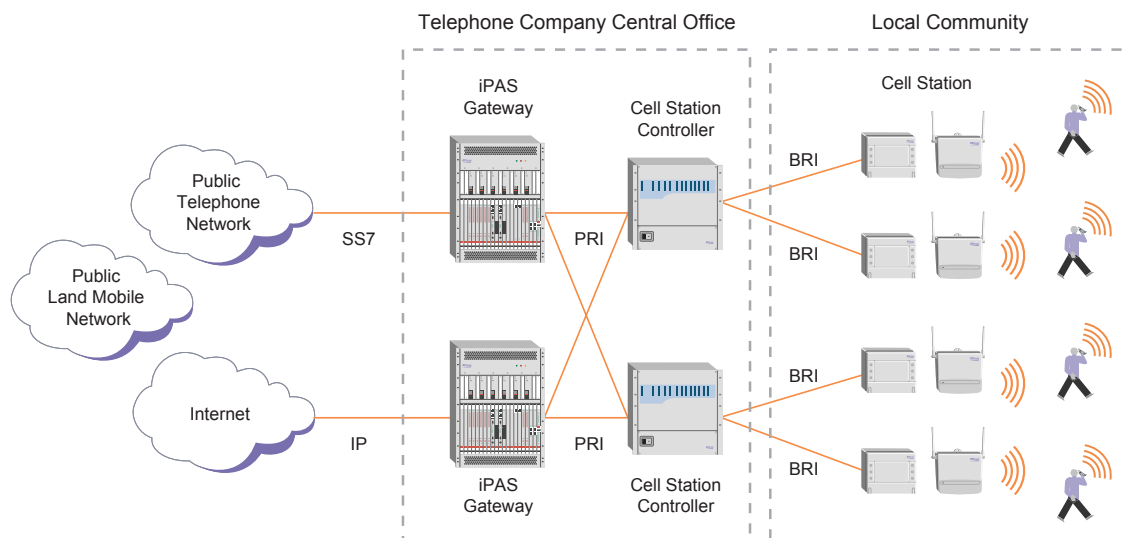
Expands Business Opportunities: Basic telecommunication services around the world are not as ubiquitous as might be imagined. In fact, global teledensity for fixed line telephony is still less than 15 percent. In markets like China and India that have low teledensity, the number of addressable customers increases exponentially as the price of deployment decreases. iPAS is extremely cost-effective

because it has the potential for providing voice services with calling tariffs that are 75-90 percent lower than average cellular services. Hence, this technology enables service providers to reach many more customers at a fraction of the cost.

iPAS is an extremely versatile technology that enables Service Providers to pass their savings on to subscribers. As a result, iPAS allows subscribers to enjoy the convenience of digital wireless communication without the premium price.

Due to its low startup cost, and incremental growth potential, iPAS is the ideal technology for virtually any deployment scenario. iPAS can be deployed in cities, towns, industrial parks, shopping malls, convention centers, and more. In all cases, iPAS subscribers with portable handsets communicate freely while on the move within all service areas.

Gains Additional Revenue Sources: Global trends indicate that fixed line services are nearing saturation in terms of incremental subscriber adoption and service usage. Mobile wireless local loop attracts more users by offering one line per user rather than one line per household. It also generates new revenue streams through value-added services (VAS) like mobile Internet access, dedicated data throughput of up to 64 Kbps and Short Messaging Service (SMS).



iPAS connects to the PSTN at the V5.1, V5.2, GR-303, TR-08, EIA-464 or 2-wire interface and has the following features:

SYSTEM FEATURES

- Large system capacity up to 2,000,000 subscribers
- Wireline-equivalent voice quality with 32Kbps ADPCM voice coding
- Roaming and mobility with handover
- Easy, low-cost network planning and maintenance
- Micro-cell radio architecture supporting capacity upward of 20,000 subscribers per squared kilometer
- Dynamic channel allocation obviates the need for radio frequency planning, easing deployment
- Transparent support of all features provided by the local exchange such as caller ID, call forwarding, call transfer, etc.
- Support of voice-band fax (up to 14.4Kbps) and data transmission (up to 64Kbps) using the PHS Internet Access Forum Standard (PIAFS) specifications
- Supports voice, data and value-added services such as Short Message Service, web surfing, download, Email, location-based information service, information services, etc.

SUBSCRIBER TERMINAL FEATURES

- Long battery life up to 800 hours standby and 8 hours talk time
- Digital coding and authentication process to avoid eavesdropping, ID snooping, and cloning
- Low transmit power with no side effects to the human body

Accelerates Return on Investment: Service Providers opting for iPAS, either as a supplement to fixed line or as an alternative to cellular, require a low initial investment. In addition, they can realize significant cost savings and a faster return on investment when it comes to network deployment and service provisioning costs.

Supports Simple, Fast and Easy Deployments: Unlike most cellular networks, iPAS solutions are simple to deploy and demand significantly less network planning resources in terms of spectrum usage and planning for cell capacities and locations. The system's dynamic channel allocation feature enables easy network expansion as demand grows. This helps reduce complexities in network planning and helps accelerate deployment schedules.

Unlimited Scalability: Employing a micro-cell topology, iPAS supports traffic densities of up to 20,000 subscribers per square kilometer. iPAS is economical to deploy for any city serving from 100 to more than 2,000,000 subscribers.

MAIN COMPONENTS OF UTSTARCOM'S WIRELESS SOLUTION

UTStarcom's Personal Access System (iPAS) is a flexible, comprehensive wireless access network system designed to deliver high-quality digital communication services in high-growth markets. iPAS is based on the Personal Handy Phone System (PHS) standard to deliver fixed wireless as well as citywide mobile access. Built to complement the PSTN, iPAS enables the fixed line operators to attract new customers, maximize existing network capacity, and offer new services to their customers.



AN iPAS NETWORK CONSISTS OF THE FOLLOWING ELEMENTS:

Wireless Remote Terminal (WRT): Connects to the LE using V5.2, V5.1, GR-303, TR-08, EIA-464 or 2-wire analog interface. Connects to the CSCs using up to four E1/T1 links. The WRT supports up to 10,000 subscribers and 15 CSCs.

Data Wireless Remote Terminal (DWRT): Connects to the iAG. Provides up to 62 E1/T1 links for interfacing with iAG(s) and ATC.

Air Traffic Controller (ATC): Interconnects several WRTs and DWRTs over E1/T1 links for roaming traffic. The ATC supports up to 500,000 subscribers.

Cell Station Controller (CSC): Connects between one WRT and up to 28 CSs. The CS interface consists of copper pairs carrying ISDN BRI. The CSC supports up to 1,000 users.

Cell Station (CS): The radio transceiver based on the RCR STD-28 PHS air interface. The CS is available for indoor and outdoor installation. The outdoor CS comes in three transmit power levels: 40mW and 500mW average. The 500mW can also custom tailor coverage by operating on 315, 200, 125, 80, 50, 32, 20mW.

Netman: The network management system for all elements in a iPAS network. It can be run on either a Solaris based SUN workstation or a Windows 2000 based PC. It provides security, configuration, surveillance, performance monitoring and other TMN functions.

Portable Handset: Several models are available with a variety of styles and features.

Data Suite: Several models are available for data access up to 64 kbps.



UTStarcom, Inc. USA

1275 Harbor Bay Parkway Alameda, CA 94502, USA
Tel. 510-864-8800 Fax. 510-864-8802

China

Building 3,
Yile Industrial Park
No. 129, Wenyi Road,
Hangzhou 310012 PRC
+86-21-63910500

India

805 Signature Towers II,
South City I Gurgaon,
Haryana 122001
India
+91-124-680-5045

Japan

TT-2 Building 8th Floor,
3-8-1 Nihonbashi
Ningyo-cho, Chuo-ku, Tokyo,
Japan
+81-3-5643-8070

Europe

Wiesenu 21C,
61476 Kronberg
Germany
+49-617-395-2201

Latin America

2801 SW 149th Ave
Suite 100
Miramar, FL 33027, USA
954-447-3077

About UTStarcom

Headquartered in the United States with sales, support and manufacturing facilities worldwide, UTStarcom designs, manufactures, sells and installs an integrated suite of wireless and wireline access network and switching systems. UTStarcom's complete suite of network equipment gives telecommunication service providers the means to cost-effectively provide efficient and scalable voice, data and Internet services around the globe.

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