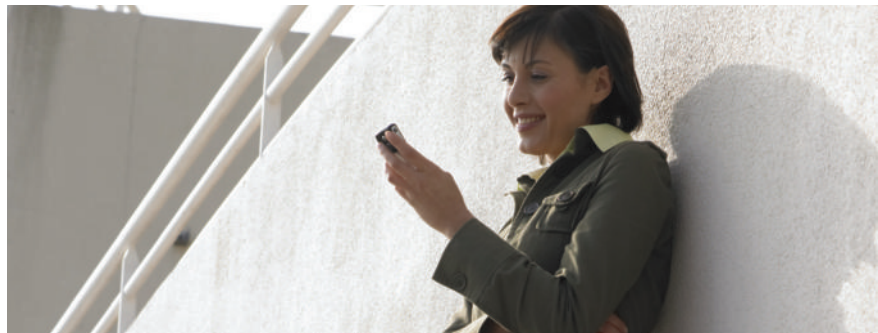
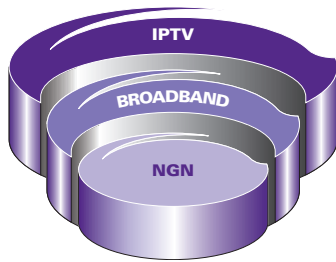




The Cutting Edge is

iPAS

Mobile Local Loop Solutions



SUPERIOR WIRELESS.
DEPENDABLE SOLUTIONS.
DIVERSE SERVICES.

- Simple, Rapid Deployment
- High Scalability
- New Business Opportunities
- Quick Return on Investment



High-demand urban and suburban areas need reliable wireless voice, data, and Internet communications that are cost effective and designed for growth. UTStarcom's IP-based Personal Access System (iPAS) complements traditional telephone services, providing the technology to reach millions of new subscribers with wireless communications and additional revenue generating offerings. Advantages include:

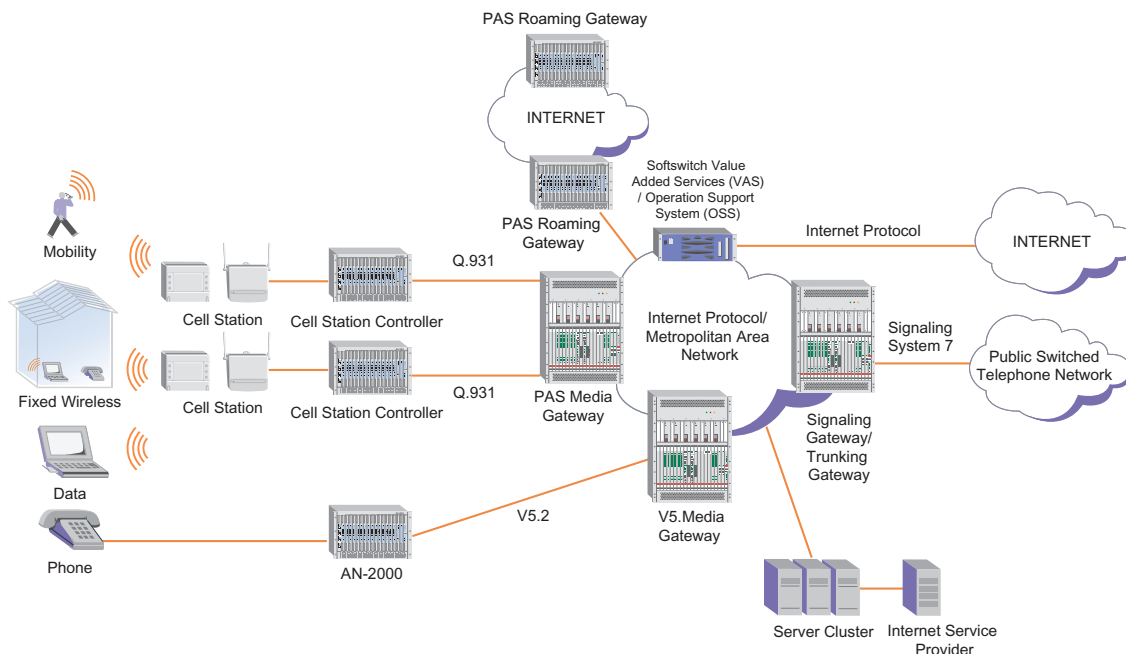
Rapid Wireless Deployment. Using iPAS, service providers can rapidly build a wireless access network, bypassing the time-consuming process of copper infrastructure installation, Radio Frequency (RF) planning, and new mobile switch and backend system deployment.

Services can be quickly tailored to meet operator and subscriber requirements. The system's dynamic channel allocation feature enables easy network expansion as demand grows.

Versatile and Cost-Effective. iPAS, which is rapidly emerging as the dominant global wireless local loop system, features extremely versatile technology that enables service providers to pass savings directly to subscribers. Voice services can be delivered for as little as 10 percent of the expense of providing traditional cellular phone service. Bottom line: Providers can serve more customers at a fraction of the cost of other solutions.

iPAS Architecture. iPAS provides connectivity between end users and the local switching center (local loop or "last mile") where copper wires traditionally have been used to link locations. This powerful, comprehensive Mobile Local Loop (MLL) based personal wireless IP based switching system is ideal for large installations serving 10,000 to 5,000,000 subscribers.

Combined with UTStarcom's mSwitch® softswitch platform, iPAS can be deployed independently of an existing local switch for connection to the Public Switched Telephone Network (PSTN) via the Signaling System 7 (SS7) interface. In this configuration, the iPAS Media Gateway (MG) softswitch provides cost-effective local switching, mobility management, service creations.



iPAS is a reliable and cost-effective system designed for rapid delivery of high-quality wireless voice, data, and Internet services – along with various value-added offerings, such as short message services (SMS), missed call notification, location-based services, email, and content based services – to high-demand urban or suburban users.

The world's leading wireless local access solution, providing a rich array of voice, data, and value-added content services.

SYSTEM FEATURES

- Delivers wireline and wireless services using a single platform
- Enables rapid, simple deployment of an industry proven solution
- Scales with a flexible, modular architecture to support the largest networks
- Offers a solution for service providers lacking traditional switching, copper wire, or cellular infrastructure
- Provides access for cost-conscious consumers sensitive to pricing models of other wireless technologies

Fast Startup. iPAS subscribers 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. iPAS can be leveraged in cities, towns, industrial parks, shopping malls, convention centers, and many other locations. In all cases, iPAS subscribers with portable handsets communicate freely while on the move within all service areas.

New Revenue Streams. Global trends indicate that the market for fixed line services is nearing saturation, but new growth still remains possible with iPAS. Mobile wireless local loop service attracts more users by offering one line per user rather than one per household. It also generates new revenue streams through the addition of value-added services like mobile Internet access, dedicated data throughput of up to 64 Kbps, and Short Message Service (SMS).

Accelerates Return on Investment. Service providers that choose iPAS either as a supplement to fixed line or as an alternative to cellular require a low initial investment. They can realize even greater savings and a faster return on investment due to substantially lower network deployment and service provisioning costs.

Simple. Fast. Easy. Unlike most cellular networks, iPAS solutions are simple to deploy and demand significantly lower resources for spectrum usage, cell capacities, and deployment sites. The system's dynamic channel allocation feature facilitates easy network expansion as demand grows, reducing network planning complexities and accelerating deployment.

Highly Scalable. Utilizing a micro-cell topology, iPAS supports traffic densities of up to 30,000 subscribers per square kilometer. iPAS is an economical solution for cities serving 10,000 to 5 million subscribers.

AN IPAS NETWORK CONSISTS OF THE FOLLOWING ELEMENTS:

Cell Station Controller (CSC): The Cell Station Controller connects the radio infrastructure to the backhaul via E1 over any transmission media (copper, fiber, and microwave) and the Cell Station via copper lines using an Integrated Services Digital Network - Basic Rate Interface (ISDN-BRI). Up to 52, one control seven traffic channels (1c7t) Cell Stations can be equipped per Cell Station Controller supporting up to 2500 users.

Cell Stations (CS): This radio transceiver based on the Research and Development Center for Radio Systems Standard 28 (RCR STD 28) Personal Handyphone System (PHS) air interface is available for indoor and outdoor installation.

iPAS Gateway (iPAS GW): The iPAS Gateway interconnects the PHS radio network (CS/CSC) with the Public Switch Telephone Network (PSTN) via the Signaling System 7 (SS7) protocol.

PAS Roaming Gateway (PRG): Provides connectivity and roaming capability to other UTStarcom Personal Access System (PAS) networks.

Netman: Functions as the network management system for all elements in an iPAS network, Netman runs on a Sun Solaris-based workstation or Windows-based PC and provides security, configuration, surveillance, performance monitoring, and other telecommunications management functions.

Subscriber Equipment: iPAS offers three types of customer terminals: a PAS handset or Personal Station (PS) for citywide mobility, a Fixed Subscriber Unit (FSU) for fixed wireless access, and a Universal Serial Bus (USB) data cable for high-speed Internet access. With an open air interface standard, iPAS supports an environment of multi-vendor subscriber equipment.

Server Cluster: Based on an industry standard computing platform, the iPAS server scales according to network capacity and service requirements. This powerful component performs subscriber authentication and management, and mobility and roaming management, in addition to enabling value-added services, Internet access, network configuration, fault management, accounting management, and customer self-care.

TECHNICAL SPECIFICATIONS

Maximum System Capacity	5 million subscribers
PSTN Interface	Signaling System 7 (SS7)
Basic Services	Citywide phone, cordless extension, fixed wireless phone, inter-city roaming
Supplementary Services	Caller ID, call forwarding, call transfer, conference call, call on-hold, call park/pick-up, automatic callback, do not disturb, hot line, malicious call trace
Value-Added Services	32/64Kbps Internet access, direct Internet access through multi-media mobile phone, Short Message Service (SMS), missed call notification, email, voice mail, information service, emergency call, prepaid account, Centrex
Server Platform	Sun Enterprise 250/450/3500/4500, Sun Netra 120, Sun Netra T 1120/1400
Air Interface	
- Standard	Research and Development Center for Radio Systems Standard 28 (RCR STD 28) Version 3.3
- Spectrum	1,880 to 1,920 MHz
- Voice Coding	32 Kb/s Adaptive Differential Pulse Code Modulation (ADPCM)
- Data Coding	Personal Handyphone System Internet Access Forum Standard (PIAFS)
- Average Power	Output low power: 40 MW (adjustable 10MW to 40MW); high power: 500MW (adjustable to 500, 315, 200,125, 50, 31.5, 20MW)
CSC to CS Interface	Integrated Services Digital Network - Basic Rate Interface (ISDN-BRI)
Transmission Interface	European Standard (E1) or United States Standard (T1) for digital transmission
Deployment Options	Open racks, indoor cabinets, outdoor cabinets
Customer Equipment	Personal Station (PS), Fixed Subscriber Unit (FSU), Universal Serial Bus (USB) data cable
Powering	-36 to -60 VDC 110/220 VAC, 50/60 Hz
Environment	-20° to +50°C with less than 95% humidity (noncondensing)

Please note the foregoing is the current opinion of UTStarcom, it may not be a comprehensive treatment of the subject matter covered and it is intended for informational purposes only. Because UTStarcom must respond to changing market conditions, the information herein should not be interpreted to be a commitment on the part of UTStarcom and the specifications are subject to change without notice. UTStarcom makes no warranties, express or implied, on the information contained in this document.



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About UTStarcom, Inc.

UTStarcom is a global leader in IP-based, end-to-end networking solutions and international service and support. The company sells its broadband, wireless, and handset solutions to operators in both emerging and established telecommunications markets around the world. UTStarcom enables its customers to rapidly deploy revenue-generating access services using their existing infrastructure, while providing a migration path to cost-efficient, end-to-end IP networks. Founded in 1991 and headquartered in Alameda, California, the company has research and design operations in the United States, China, Korea and India. UTStarcom is a FORTUNE 1000 company. For more information about UTStarcom, visit the company's Web site at www.utstar.com

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