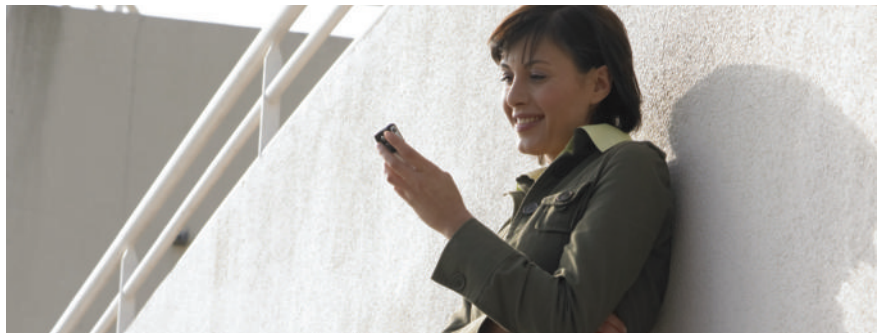
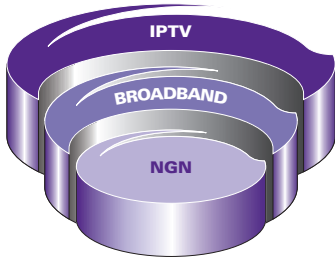




The Cutting Edge is **Personal Access System**

Mobile Local Loop Solutions



SUPERIOR WIRELESS.
DEPENDABLE SOLUTIONS.
DIVERSE SERVICES.

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

PAS CONFIGURATION

PAS connects to the existing local exchange switch via Next Generation Digital Loop Carrier E1 (V5.1, V5.2) or T1 (GR-303). The Air Traffic Controller (ATC) provides mobility and roaming management throughout the network. The PAS Gateway Terminal (PGT) provides inter-city roaming capability. By integrating PAS into the existing local switching network, service providers can take full advantage of unused switching capacity and existing switched-based services such as caller ID, call forwarding, and voice mail.

Cell Stations. Consisting of the Cell Station (CS) and Cell Station Controller (CSC), PAS radio base stations are easy to deploy and maintain. The CS, deployed at strategic locations throughout the network, communicates with the subscriber terminals via the air interface and relays the information via ordinary copper cables to the CSC located at the wiring center. In areas lacking existing copper connection, CSCs can be colocated with the CS and Microwave E1/T1 links can be used to connect CSCs to WRTs.

Server Cluster. Based on an industry standard computing platform, the PAS server cluster can be scaled according to network capacity and service requirements. This powerful component performs subscriber authentication and management, in addition to enabling value-added services, Internet access, network configuration, fault management, call accounting, and customer self-care.

Subscriber Equipment. PAS offers three types of customer terminals: 1) a PAS handset or Personal Station (PS) for citywide mobility, 2) a fixed subscriber unit (FSU) for fixed wireless access, and 3) a USB cable for high-speed Internet access. With an open air interface standard, PAS supports an environment of multi-vendor subscriber equipment.

Netman. The network management system for all elements in a PAS network, Netman runs on either a SUN Solaris-based workstation or Windows-based PC. It provides security, configuration, surveillance, performance monitoring, and other telecommunications network management functions.

DEPLOYMENT AND SERVICES

Wireless City Phone. With PAS, both subscribers and service providers win. Subscribers get the convenience of personal access with the compact, digital pocket phone and one-number, citywide mobility. Service providers enjoy the simplicity of local exchange switch re-use, billing and feature transparency and quick service startup. Where regulation permits, PAS phones support inter-city and even international roaming.

Wireless Pair Gain. PAS allows service providers to rapidly deploy services in urban or suburban areas where cable infrastructures are fully saturated. With traffic concentration capability via technologies such as Adaptive Differential Pulse Code Modulation (ADPCM) and Next Generation Digital Loop Carrier (GR303, V5.2), PAS significantly

increases copper network capacity. No new cable construction is required to satisfy new demands.

Business Communication. Deployed in business offices, industrial complexes, shopping malls, and university campuses, PAS provides access to people who are constantly on the move and must be reachable at all times.

Mobile Internet Access. With a PAS Universal Serial Bus (USB) data cable, subscribers enjoy instant access to the Internet anytime, anywhere within the network. PAS supports data access at 32 Kb/s or 64 Kb/s.

Short Message Service (SMS). Using a handset, PAS subscribers can send or receive text messages among PAS or Global System for Mobile Communication (GSM) subscribers.

A PAS NETWORK CONSISTS OF THE FOLLOWING ELEMENTS:

Wireless Remote Terminal (WRT): Connects to the Local Exchange (LE) using Next Generation Digital Loop Carrier E1 (V5.1, V5.2) or T1 (GR-303).

Data Wireless Remote Terminal (DWRT): Provides up to 60 E1/T1 links for interfacing with the iAG(s) and ATC.

Air Traffic Controller (ATC): Interconnects several WRTs over E1/T1 links for roaming traffic. Supports Hierarchical ATC design (HATC) to increase roaming traffic handling capacity.

Cell Station Controller (CSC): Connects between one WRT and up to 52 CSs. The CS interface consists of copper pairs carrying Integrated Services Digital Network - Basic Rate Interface (ISDN-BRI).

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

Subscriber Equipment: PAS offers three types of customer terminals: 1) a PAS handset or Personal Station (PS) for citywide mobility, 2) a fixed subscriber unit (FSU) for fixed wireless access, and 3) 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.

Internet Access Gateway (iAG): Acts as a Remote Access Server (RAS) to provide PAS Internet connectivity.

PAS Gateway Terminal (PGT): Provides connectivity and roaming capability over E1 links to other PAS networks.

TECHNICAL SPECIFICATIONS

Maximum System Capacity	1 million subscribers
PSTN Interface	V5.1, V5.2, GR-303
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	T1 / E1
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)

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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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