



**Wireless Appliances for WLAN,
Broadband Internet and Other Services**

WiBorne, Inc.

Roadmap for our Wireless Appliances

Current Products:

Wireless Hotspot Gateway (HSG-200)

Wireless Security Gateway (AWG-25/AWG-30)

IPSec VPN Router (AWG-60)

The 3rd Quarter, 2004

Hotspots:

- Meshed Network
- Intelligent Content Management
- Single Cell for less than USD \$150

The 4th Quarter, 2004

Wireless Switches (AWG-1000: AWG + Managed APs)

- RF Control
- SNMP Management
- Power over ethernet

Wireless Security Gateways

Key Features:

- Secures 802.11 WLANs (a, b, g), VoIP.
- VPN Clients supported: Windows 2000, XP, PocketPC, MacOS, and Unix.
- IPsec and SSL/TLS for strong client-to-gateway VPN and VLAN Security
- Seamless IP roaming.
- Secure single sign-on integrated with local and domain authentications (Kerberos, RADIUS, LDAP).
- Quality of Service (QoS) functions.
- SPI Firewall.
- Intrusion Detection and Prevention (IDS/IPS).
- 802.1X support with EAP, TLP, TLS, and MD5 for port authentication.
- Proactive host security measures.
- Guest/Role accounts, with option to bypass VPN.
- Walled Garden and logon redirecting.
- Ultra-secure OpenBSD Operating System.

Wireless Hotspot Gateway

Key Features:

- **Authentication (Walled Garden)**
- **Authorization**
- **Accounting/Billing for instant Hotspot**
- **Seamless IP roaming**
- **Multiple platforms**
- **Large number of access points (APs)**
- **Up to 250 simultaneous users**
- **Clientless (Bypass VPN) option**
- **Guest/Role accounts**
- **Redirection to customized authentication page**
- **Full Quality of Service (QoS) functions**
- **Firewall**
- **802.1X**
- **VPN**
- **Remote administration and reconfiguring**
- **Software Redundancy**

IPv6 IPsec Router

Key Features:

- Major functions from AWG-1000
- AES, DES, 3DES encryption
- Both IPv4 and IPv6 IPsec tunnels, IKE/ISAKMP protocols. Configurable site-to-site or site-to-clients VPN.
- VLAN Technology
- Dynamic routing performance
- Security policies can be set on a per-host or per-network basis, not per application/service.
- BGP4
- RIP, RIP2, RIPng
- OSPF (v4/v6)
- Single Sign-On with external authentication servers (Kerberos, LDAP, and RADIUS)
- OS fingerprinting with packet frame captured to small footprint database
- Comprehensive firewall for wired and wireless subnets
- QoS (packet shaping functions)
- SSH remote configuration, console mode.

AWG/HSG Platforms Securely Manages Customers, HW and Content

AWG – 18 man-years in development

Uniform management of users, HW and content allows new service offerings

Security

Inherent in UltraSecure system architecture (OpenBSD)

Layer:	Customer with device	Content/Application	Network
Elements:	User - AAA = Authorization, Authentication, Accounting. Billing module Handheld recognition	Local, central or distributed content E.g. Music, Web Sites, Video, Voice Data. Group/Role management, QoS.	Hardware, e.g. WLAN gateways/switches. Distributed, diverse hardware. Connectors for most common HW devices
Usual solution:	Basic AAA (Radius) implementation	Network Data May be connected through interface	Network management system. May be connected through interface



New kind of services, such as localized or personalized services possible

Five Distinct Wi-Fi Business Strata Exist

Branded Service Providers

- own the end customer relationship - only national brands can serve the early market (business travelers) effectively

Value-added service providers

- provide add-on service such as printing, news, entertainment, etc

Aggregators

- facilitate interactions between branded providers and operators

Network Operators

- own and operate hotspot networks

Tool Vendors

- OSS, clearinghouse, mediation, rating software
- gateway hardware vendors

WLAN as Hosted Service for Enterprises

Product Offering: WLAN as hosted service

- Telcos may offer their customers a hosted and managed WLAN service based on their broadband access
- The access is split up in private (intranet) and public WLAN network
- WLAN management includes security, firewall, AAA, and possibly control of content, bandwidth access times of the users

Advantages for customers:

- Value added services in-house
- Additional revenues and better services for external visitors
- No deployment effort, since service is provided ready to go

Possible customer target segments:

- Enterprises with a large public area, e.g. for campus training
- Public institutions, public transportation
- Business Centers with several companies to which this service is offered
- Health care: Hospitals

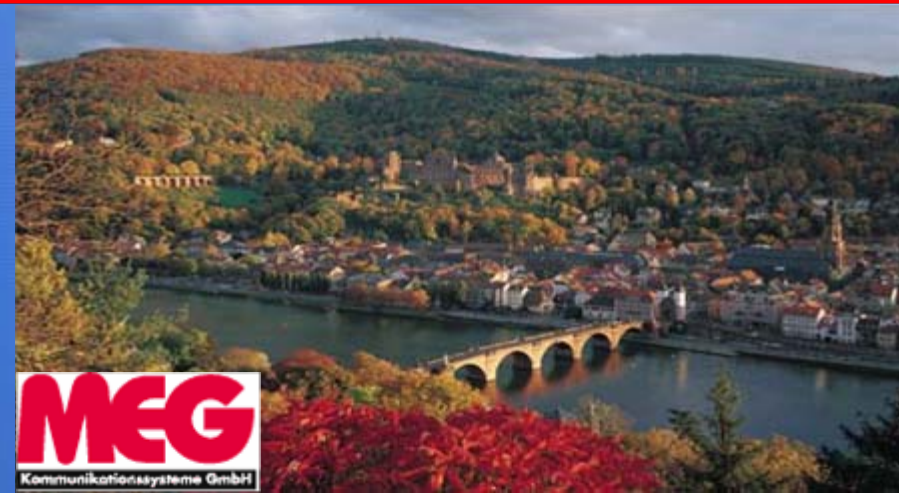
Example of WLAN Management Services

Services offered:

➔ Virtual tourist guide on a WLAN-PDA

Customer requirements:

- Offers roaming & billing of all major players to users
- Offers VoWLAN (Voice over WLAN)
- Offers local content of many hotspot owners without security compromises but gives them access to edit the content themselves
- Follow moving users over different hotspots and gateways without losing the session
- Show same content in different languages
- Navigation
- Provides high-volume tourism content directly from gateway
- Easy setup and survey of network infrastructure



MEG WLAN

Home was funktioniert Tourist Info Forschung Heidelberg live Business Community Kontakt

MEG-A-WLAN Login

Willkommen bei MEG-A-WLAN

MEG-A-WLAN News

Funkfeldmessung Altstadt

Kooperation von MEG & ipps.net

Wenden Sie Hotspot-Betreiber

News aus Heidelberg

Wetterbelüfte der UNESCO: Heidelberg beantragt Aufnahme

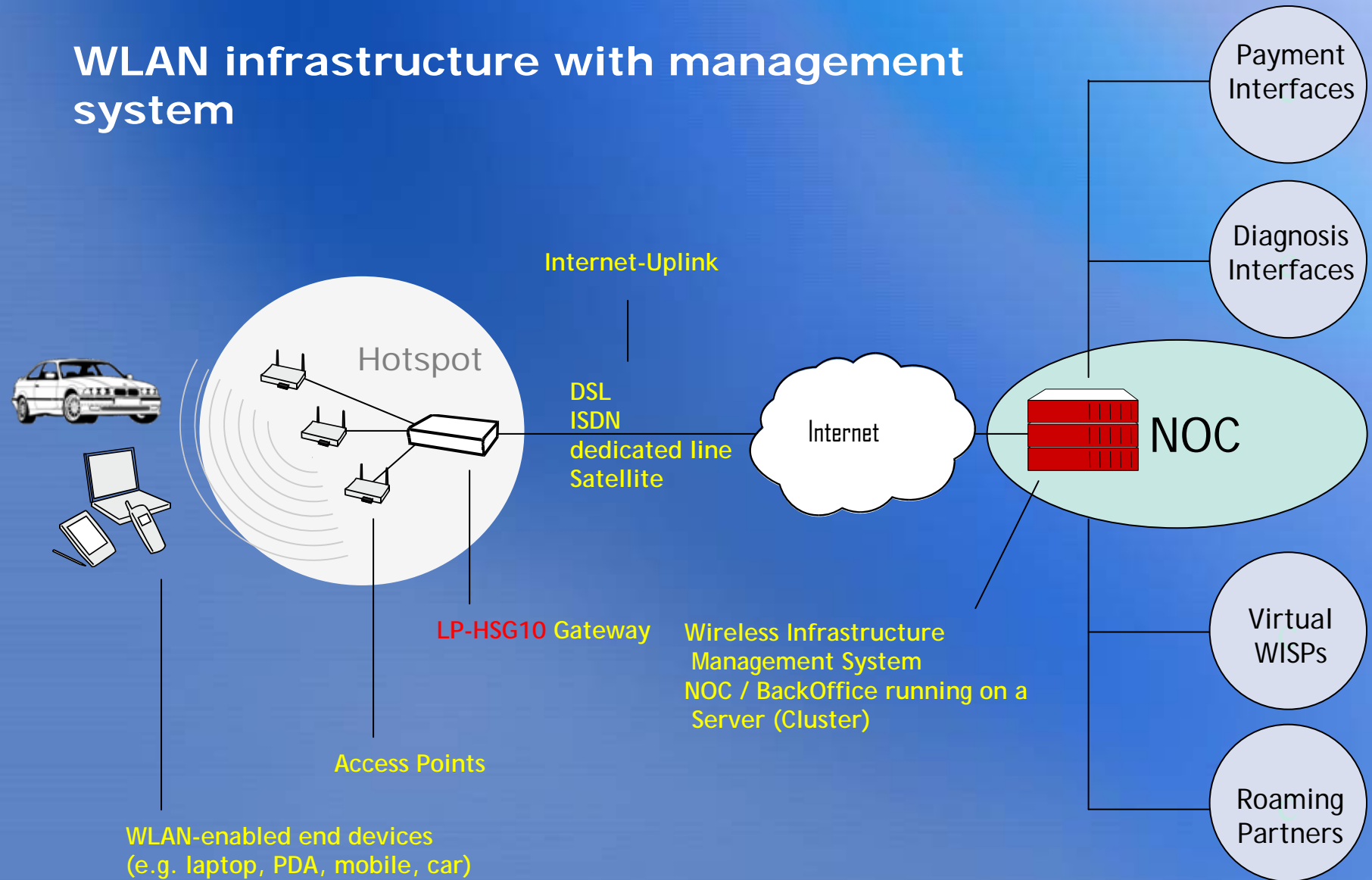
Elisbeth Janda erhält Richard-Benz-Medaille

Schlossfestspiele 2004 - Ververkauf hat begonnen

Service powered by MEG - Letzte Aktualisierung 03.03.2004 - © MEG GmbH

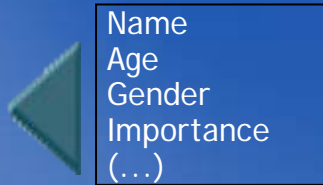
How to Support WLAN Management Systems

WLAN infrastructure with management system



Planning Management System -1 Our gateway becomes "active & intelligent"

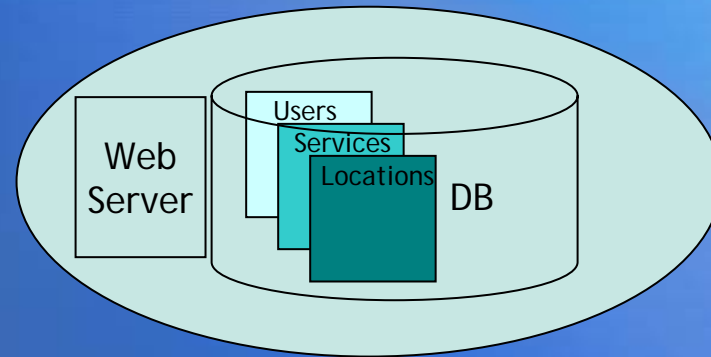
Gateway



Active Control



NOC



Network policies can be changed dynamically based on each user's profile

The gateway is an integral part of the solution. Portal pages server and AAA instance coupled. Business Logic based on relational databases.

Planning Management System – 2 hierarchical backend

The third generation of management systems actively controls the gateways and is based on an object-oriented, hierarchical and scalable back end system



Network policies can be changed dynamically based on user profiles and business requirements

- Network is under complete control of AAA / Content management at any time
- Any business logic can be realized and driven w/o reconfiguring the core