

**WLAN Access:
Integration in the Network and Service Environment**

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Summary

- > **WLAN Market**
 - Size & Trend
 - Network Coverage
- > **Customers Requirements**
 - No Hassle!
 - Who, What & Where
 - Who, Where & How Much
- > **Operators requirements**
 - Reuse theirs Assets
 - Seamless Service Offer
- > **Alcatel support to WLAN deployment**

See:
[Alcatel Telecommunications Review](http://www.alcatel.com/atr/)
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WLAN market: Size & Trend

Estimated WLAN market distribution

Home WLAN

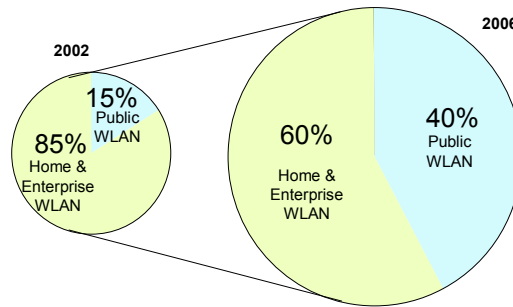
Enables the simple, cost-effective sharing across multiple PCs of shared resources such as a single broadband connection to the home.

Enterprise WLAN

Provides a means of connecting people at corporate premises to their corporate computing resources.

Public WLAN

Provides a means of connecting "on-the-pause" people at public places to the Internet and/or their corporate computing facilities.



Source: The Gartner Telecommunications Scenario, 2002

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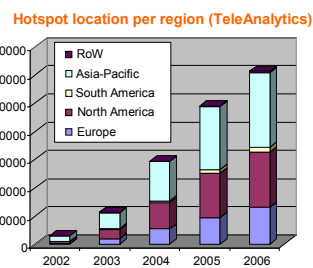
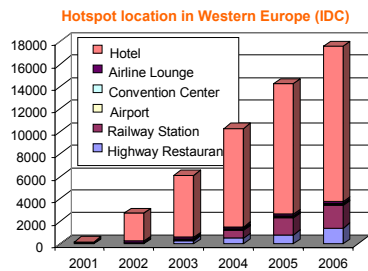
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WLAN market: Network Coverage

> Between 100 000 and 300 000 public PWLAN hotspots in 2006

- US hotspots increase from 3300 to around 100 000 in 2006 (TeleAnalytics)
- Deployment mostly in Asia, North America and Europe



Source: Yankee Group, June 2002
TeleAnalytics, May 2002
IDC, December 2001

> A estimated market of \$1.8B for Europe only in 2007 (Yankee Group)

- 7.7M regular user
- 50% of the users billed by their mobile network operator

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Customer Requirements: No Hassle!

- > **Anywhere anytime to access information**
- > **Security**
- > **Unified authentication way**
- > **One bill for all fixed & mobile data services**
- > **Price/Performance**


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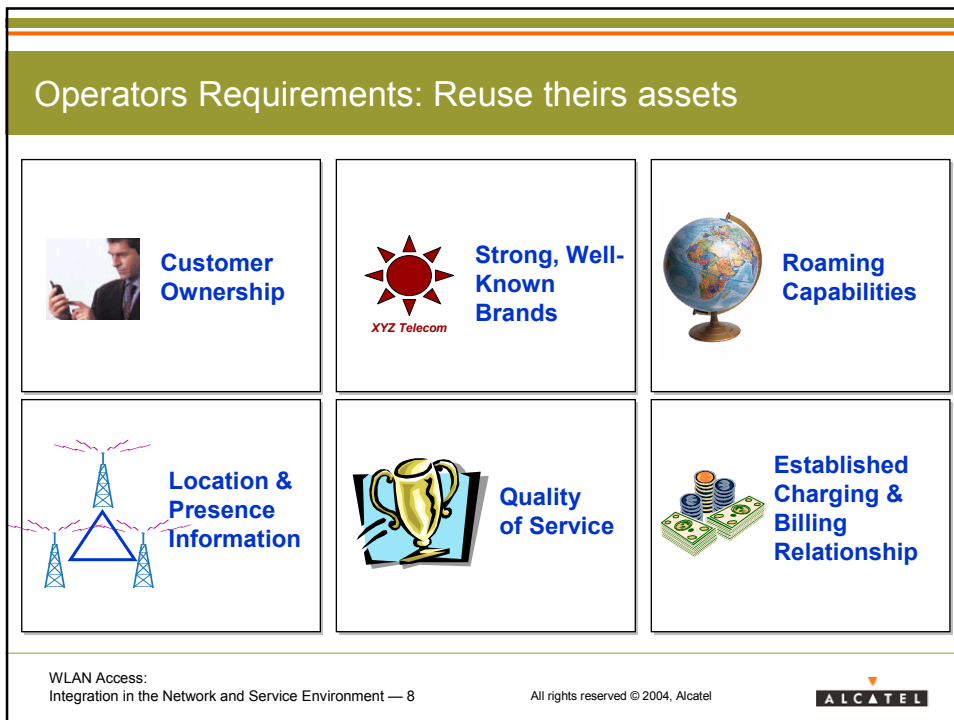
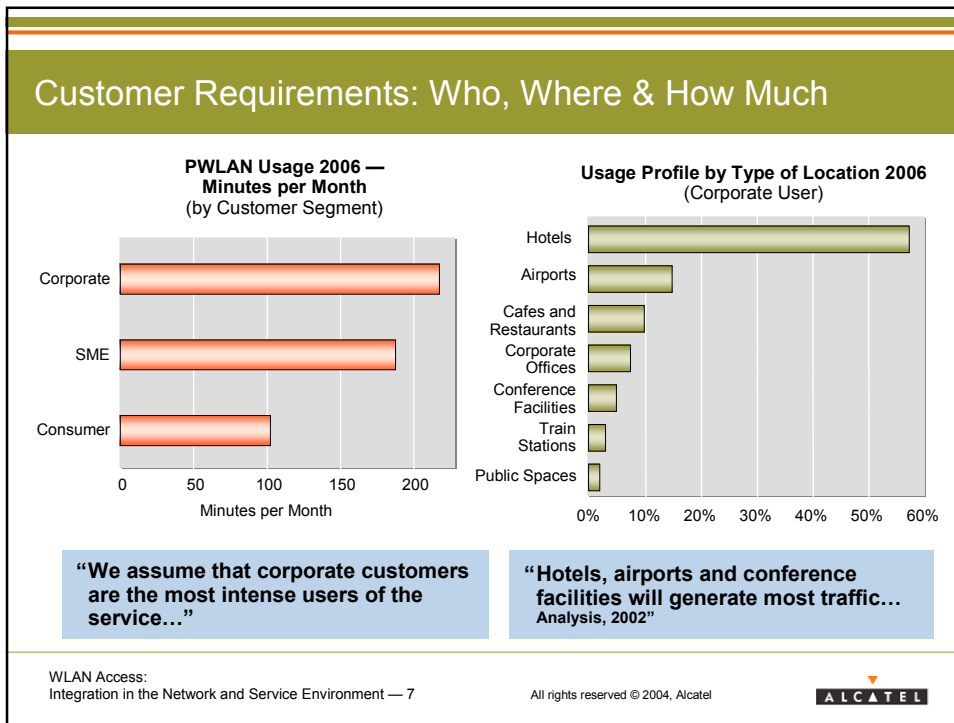
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Customer Requirements: Who, What & Where

Segment	Importance / size	Services	Access device	Access location
Corporate travellers	Highest	email, Internet, Corporate IT resources	primarily laptop, also PDA	airports, conference centres, hotels
Mobile professional	High	email, CRM applications, Internet, corporate IT resources	laptop, PDA phones	wherever available
Students	Low-Medium	email, Internet, music, games	laptop, dormitory PC, also PDA	campus, cafés, home, dormitory
Flexible workers	Low-Medium	email, Internet, corporate IT resources	primarily laptop also PDA	home, cafés

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Operators Requirements: Seamless Service Offer

- ◆ **Terminals Availability**
- ◆ **Network Integration**
 - ◆ **WLAN access fully integrated with existing network**
 - ◆ **Standard products to minimize costs**
- ◆ **Service Integration**
 - ◆ **WLAN services Integrated with existing ones (fixed & mobile)**
 - ◆ **Simple authentication**
- ◆ **Integrated billing system**
 - ◆ **Full support of Roaming**

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Alcatel contribution to WLAN Deployment (1/3)

- > **Any end-user** - Supports any type of end-user subscribed to
 - An ISP through DSL access
 - A 2G/2.5G mobile operator
 - A WISP through WLAN access
- > **Any authentication** - Supports any type of simultaneous standard subscriber authentication mechanism - PPPoE, HTTP, SIM or virtual SIM
- > **Any security** - Supports any type of simultaneous standard subscriber security mechanism - PPPoE, HTTPS, 802.1x, VPN
- > **Any payment** - All kinds of payment methods are possible - Prepaid, Postpaid, Payment Servers. Can provide links in to an operator's existing billing system
- > **Any network operator** - Full support of roaming - Home and Visited. Supports Operator sharing of the WLAN network infrastructure

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Alcatel contribution to WLAN Deployment (2/3)

- > **Integrates in to any** existing network infrastructure - fixed or mobile:
 - AAA servers
 - DSL to the BAS
 - 2G/2.5G mobile
 - Pre or post-paid billing systems
- > **Utilises standard** open interfaces at all levels of the solution - RADIUS, SS#7 MAP, 802.11b ...
- > **Provides an end-to-end** solution which is fully independent from the WLAN standard employed - 802.11b, 802.11a ...
- > **Provides easy WLAN management** integration in to any standard SNMP platform
- > **Minimises market entry costs** through scalable authentication, payment and other back-end systems

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Alcatel contribution to WLAN Deployment (3/3)

- > As the world's **leading broadband vendor** and an important player in the mobile segment from 2G to 3G, Alcatel can assist Operators deliver a PWLAN service portfolio which:
 - optimally targets end-user needs
 - maximises Operator profitability
 - enhances and extends existing fixed and mobile service portfolios
- > Alcatel provides a full set of **carrier-class equipment** and services to complement our Public WLAN solution offerings - access, backbone, customer care, billing, installation, operations, maintenance
- > Alcatel and its partners can provide revenue-generating applications which monetize Public WLAN network investments such as presence management, locality-based applications ...

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