

Defining m-Commerce

- Voice v. Data centric devices
- Data v. Non-data applications
- WAN v. LAN v. PAN mobile transactions
- Locally v. Remotely hosted services
- Transaction v. Access authorization & accounting

Wireless Data Market Vision

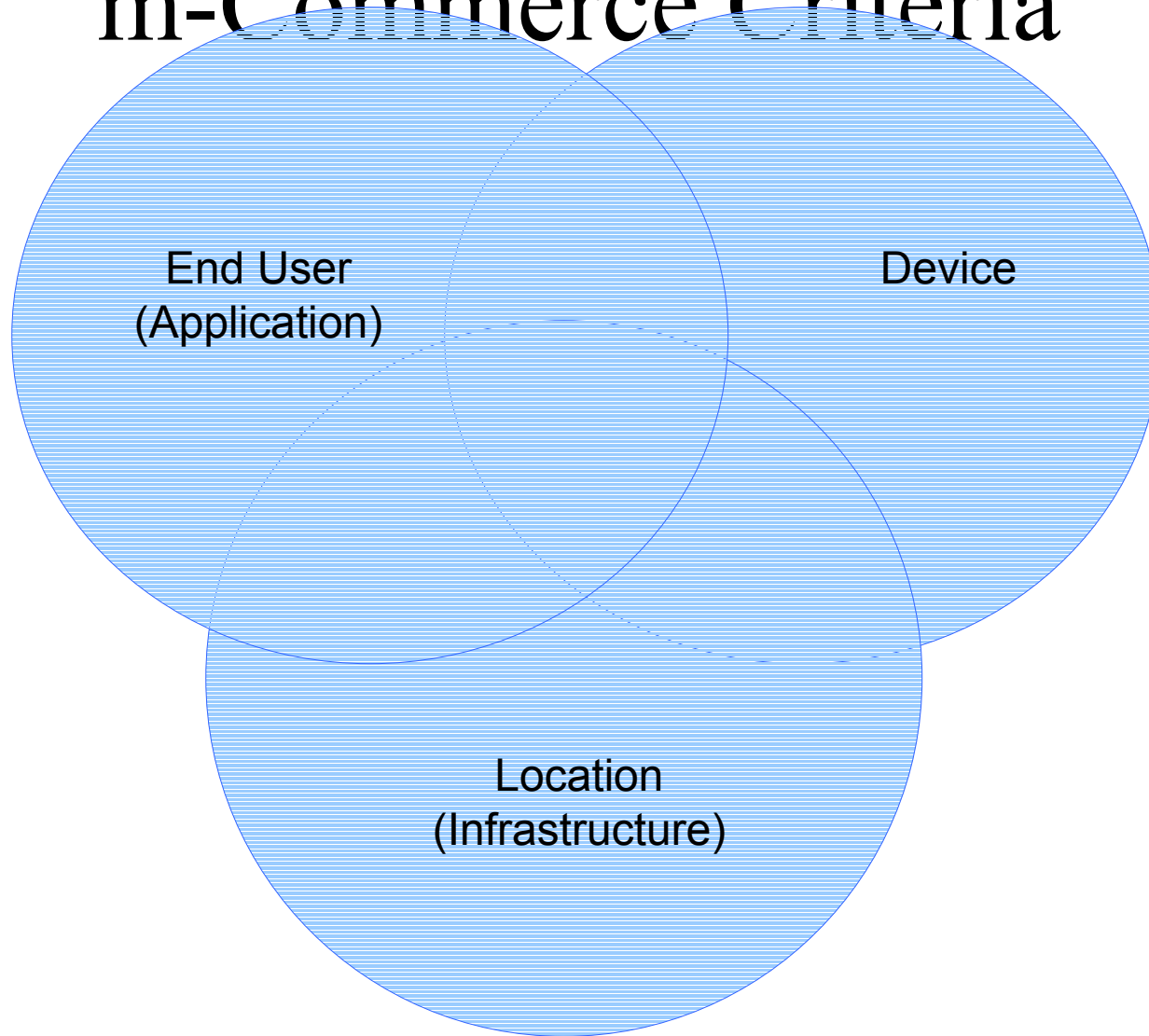
- Devices like laptops & PDAs will use high-speed wireless local access for visual applications in a *portable* mode, & cell phones using relatively low-speed WAN access for audio & SMS applications in *mobile* situations.
 - Wi-Fi, Bluetooth, 3G
- Other emerging & potentially lucrative wireless data industries are fixed wireless & satellite content distribution networks, which transmit data to the fixed devices such as stationary, as opposed to mobile, devices.
 - eg – iBlast

Wireless Data Market Drivers

Dain Rauscher Wessels

- The *connection* between the user's device & the network.
 - In the mobile Internet, where users roam and may encounter networks that use different *connectivity* than their home networks, or office networks. This can be an inhibitor to adoption.
- Increased bandwidth is key for wireless data
 - More bandwidth enables exciting new applications can be developed.
- Better applications needed
 - Applications and enabling technologies will drive the mobile Internet. Operators will not earn meaningful revenues from data services until better applications

m-Commerce Criteria



End User
(Application)

Device

Location
(Infrastructure)

Mobile Wireless Data *Value Chain*

- We break down the mobile wireless data industry into the following general categories:
 - Network infrastructure suppliers
 - Device enablers
 - Carriers & access providers (NSPs)
 - Wireless Internet service providers (ISPs)
 - Wireless application service providers & Portals (ASPs)
 - Billing & Accounting Service Providers (BSPs)
 - Network, device & transaction security

Device Classifications

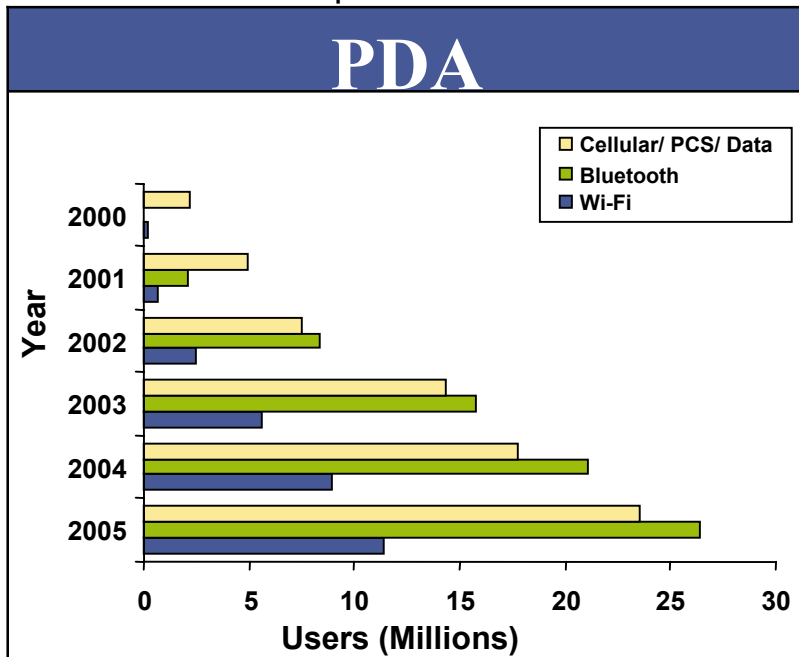
- Mobile
 - Mobile Phone
- Portable
 - Pager, PDA, Pocket PC, Laptop
- Stationary
 - Desktop
- Fixed
 - Point-to-Point



Delivery of data, content & applications over mobile wireless networked devices.

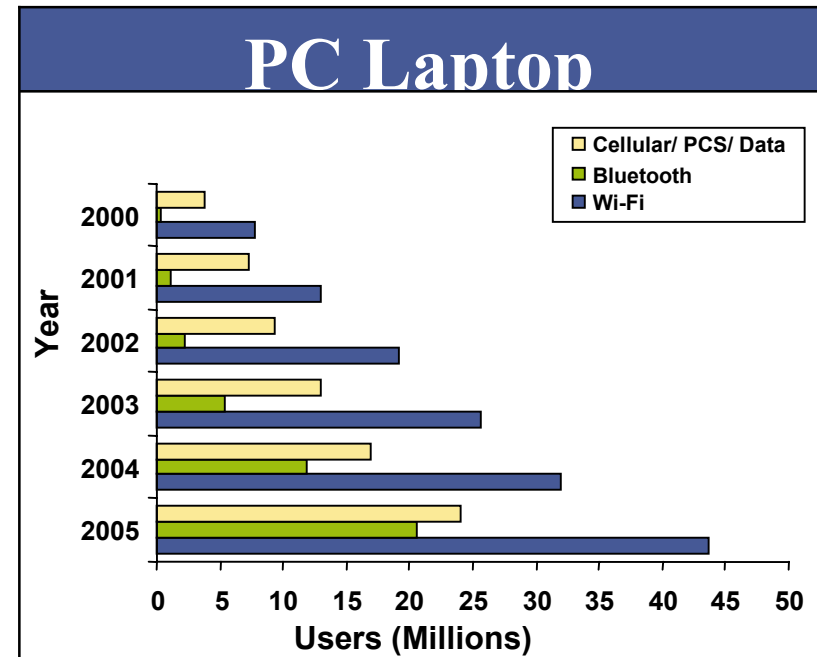
Technology Platform Penetration

US Wireless Users per Device



Implication

PDA's are most likely to be enabled by wireless technologies other than Wi-Fi.

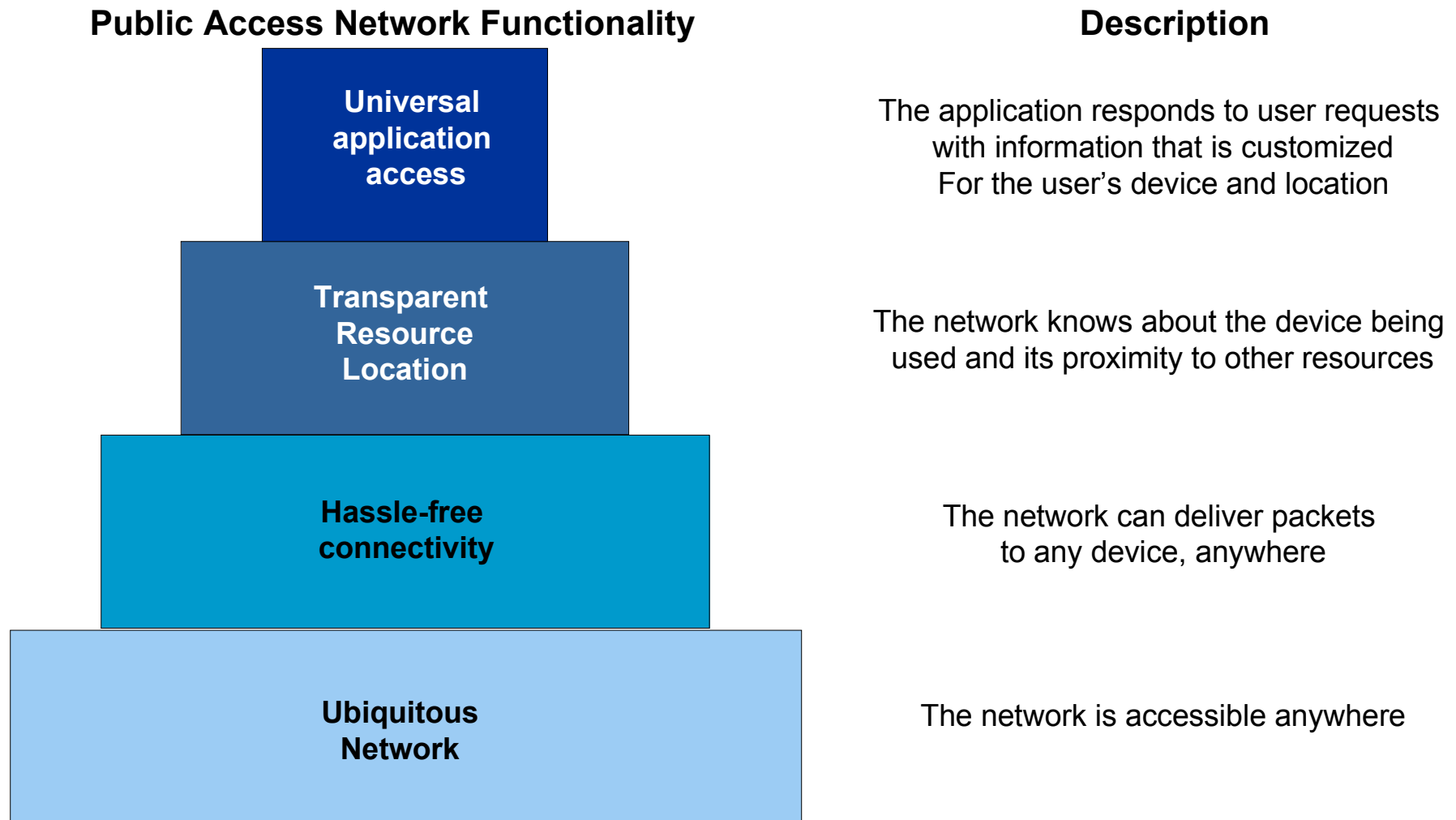


Implication

High penetration of Wi-Fi in laptops.

Source: Jupiter; Cahners In-Stat; The Standard; IDC; WAP Forum; ARC Group; Dataquest; marchFIRST Analysis

m-Commerce Components



Source: Forrester Research

Network + Connectivity + Application + Device = Transaction

m-Commerce

Network Requirements

- Broadband WAN access
- Easy installation, configuration, administration & maintenance
- Centralized security management, device & user authentication
- Seamless mobility
- User aware, Location aware, Device agnostic
- Provisioning of local resources to visiting client devices
- Security
- Accounting / Billing capabilities

Wireless Internet Data Services

- Example scenarios
 - Grocery store
 - Book store
 - Shopping mall
- Transaction Incidents
 - POS
 - Vending machines
 - Peer-to-Peer
 - Eg - Pay Pal
- Authorization & Payment
 - Local v. Remote
- Channel / Customer Opportunities
 - Service Providers
 - Property Owners
 - Application Vendors
 - Device Mfgs
 - Early Adopters (User)
- Prove the business model

Wireless Internet

Success Factors

- National network coverage
- Wireless brand awareness
- Ownership of network access control
- Profile-based personalized content
- Telemetry & tracking capabilities
- Delivery of location-based content
- Leveraging of Internet user experience

Wireless Internet

Risks

- Devices
 - Wi-Fi, Bluetooth & 3G connectivity
 - Limited input mechanisms, Small screen size
 - Limited power supply, memory & processing power
- Network Infrastructure
 - Large scale build-out
- Security
 - Authentication, authorization, transaction security & mobile device data storage security vis-a-vis m-commerce & personal information
- xSPs
 - Migrate from WAN WAP centric mind set