

Role of Cellular Carriers in Fee-Based Public Wi-Fi Hotspots

June 26, 2003

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Wi-Fi | Cellular | IT

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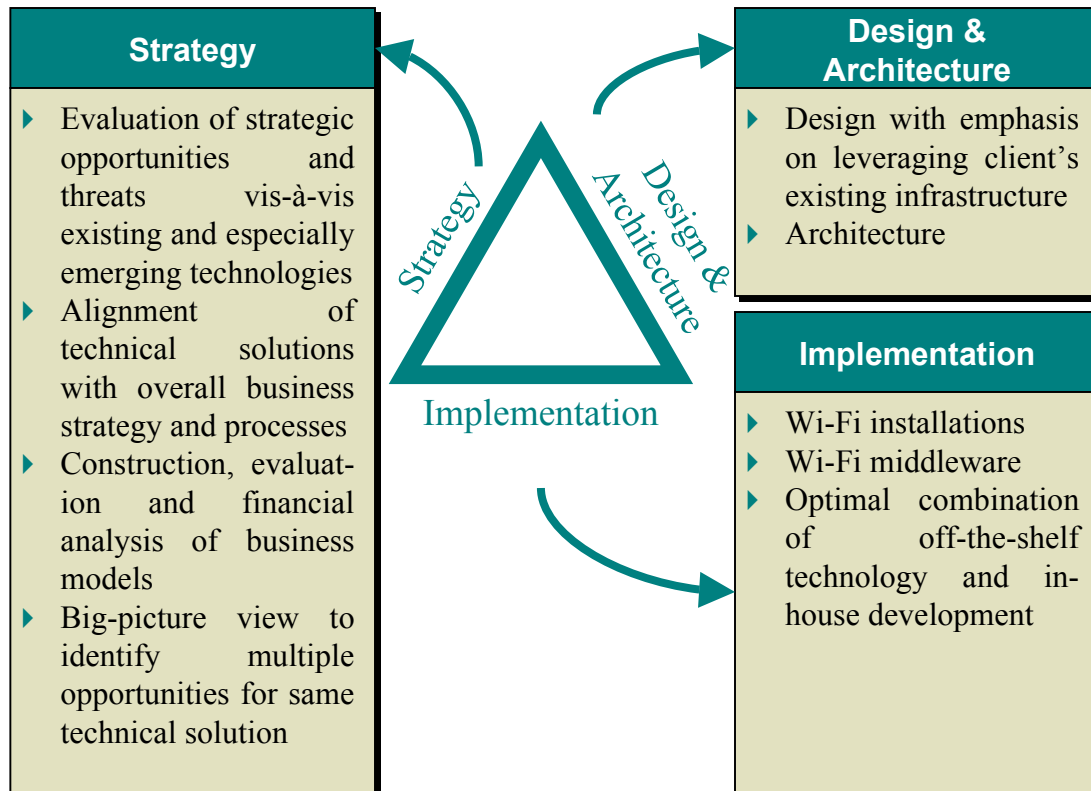
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About MobiLaps

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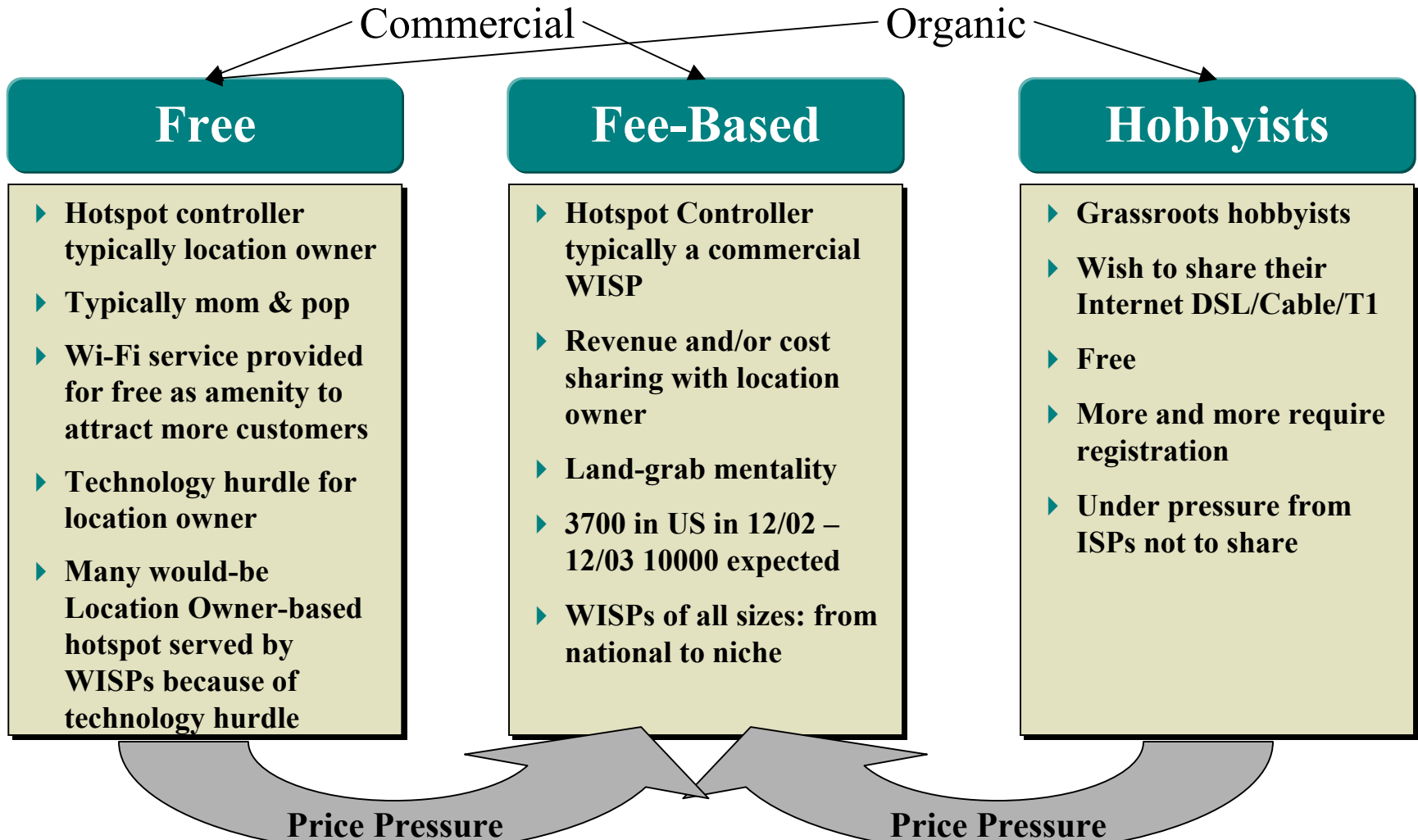
Deliver Value to Customers Based on a Three-Pronged Approach



SECTORS

- ▶ Wi-Fi
- ▶ Cellular
- ▶ IT
- ▶ Enterprise Wireless

Three trends in public Wi-Fi hotspots



Apart from price pressure, three key obstacles for “Fee-Based”

- ▶ Security (also obstacle for other types of Wi-Fi hotspots)
 - Most WISPs do not bother turning on security – don’t want to inconvenience subscribers
 - Even without its security holes, WEP does not work for public Wi-Fi because key must be announced – problem extends to similar encryption techniques
 - Newest security methods (based on 802.1x) require user’s registration and client-side software – too much inconvenience
 - Today it is “Bring your own security”: SSL, VPN, personal firewall
- ▶ Ubiquity
 - Many users will not subscribe to WISP unless there is ubiquitous access
 - Ubiquity can be achieved through **deployments** and **roaming agreements**
 - Deployments: WISPs will not deploy aggressively if there is no demand
 - Roaming: Currently limited roaming agreements
- ▶ Affordability
 - Current pricing levels match the budget of the business user

Chicken &
Egg
Problem

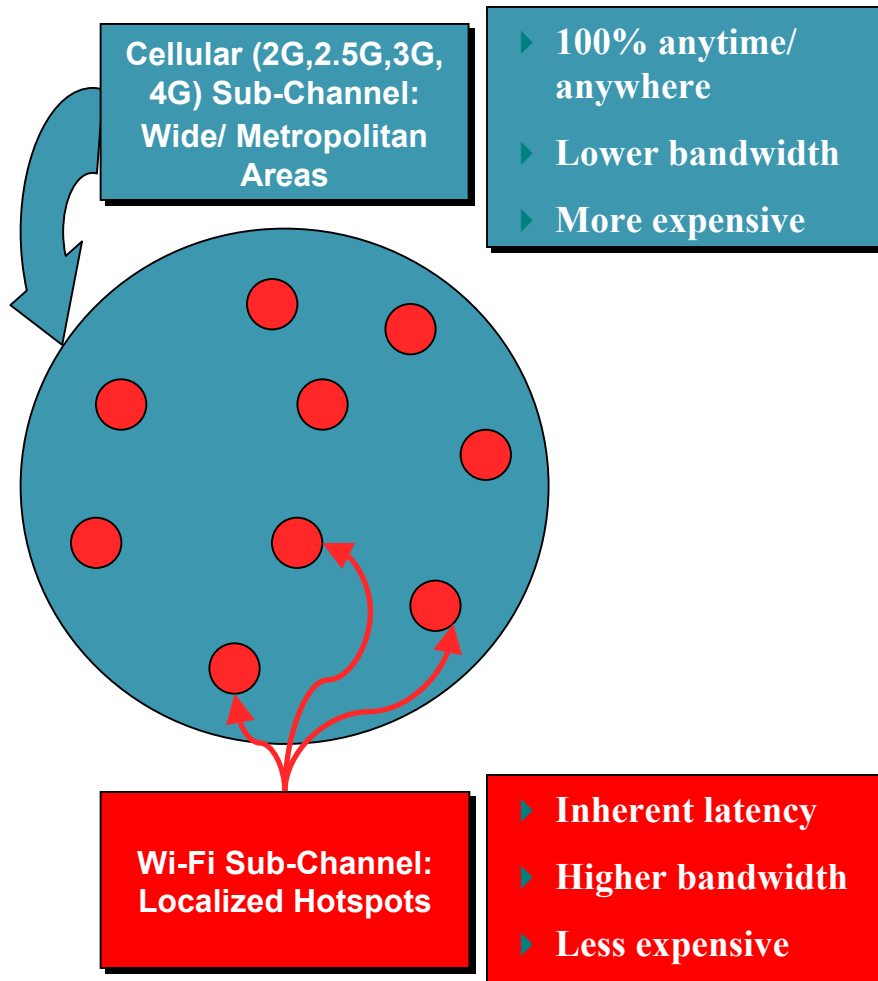




Cellcos uniquely positioned to do best in fee-based WISP game

- ▶ Cellular carriers uniquely positioned to overcome these obstacles
- ▶ Overcoming ubiquity obstacle:
 - Fall back on cellular coverage via seamless Wi-Fi/Cellular roaming
 - Extend experience with cellular roaming to Wi-Fi roaming
- ▶ Overcoming security obstacle
 - In a position to require consumers to install client-side software
 - Stamp of approval will alleviate concerns of most users
- ▶ Overcoming affordability obstacle
 - Can lower rates significantly, and legitimately treat Wi-Fi operations as a loss-leader to sell and cross-sell profitable cellular service
- ▶ Other General Advantages
 - Customer care expertise
 - Billing systems
 - Marketing power

Towards cellular/Wi-Fi convergence



Keys to Success

- ▶ Cellcos' involvement/playing along in allowing Wi-Fi/cellular roaming
- ▶ Single service: seamless roaming and unified billing
- ▶ Lower Wi-Fi cost passed on to customers
- ▶ Wi-Fi technology continuing to be cheaper, faster and more reliable than cellular

Will Wi-Fi Kill 3G?

- ▶ No, after all 3G is already "here"
- ▶ Competition will eventually always lead to fastest available technology for cellular sub-channel
- ▶ Wi-Fi will only delay 3G for some cellcos – but perhaps long enough to skip to 4G



Individual cellcos have own unique advantages in WISP game

- ▶ Individual cellular carriers have their own advantages. Examples:
- ▶ Nextel:
 - Windshield warriors part of loyal customer base
 - Can leverage & reinforce loyalty by serving specific needs of windshield warriors with Wi-Fi
 - For details see Dr. Kassab's article in July/August issue of Mobile Business Advisor Magazine www.mobilebusinessadvisor.com
- ▶ Verizon Wireless:
 - Synergies with Verizon Wireline
 - Reduce DSL/T1 rates for public Wi-Fi hotspots
 - Bundling opportunity for consumers: residential broadband, residential Wi-Fi, and public Wi-Fi
 - Bundling opportunity for businesses: corporate campus Wi-Fi and public Wi-Fi.
- ▶ T-Mobile:
 - First-mover advantage – high visibility in public Wi-Fi market
 - Cellular service popular with transatlantic travelling business men – translates to advantage in airport lounges (for international flights)