

Why-Fi?

Exploring some Myths and Misconceptions of Wireless Networking

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What Should WiFi Deliver to Create Business Value?

Business Requirements

- Ubiquity
- Reliability and Quality of Service (QoS)
- Support for multiple applications (e.g. voice, data)

User Requirements

- Convenient, portable devices
- Usability
- Usefulness
- Affordability

WiFi is Ubiquitous

... or it will be soon (“just wait”)

– search for killer app to increase supply of WiFi

Reality check:

- WiFi is very patchy, and availability is affected by seasonality, no ‘federated’ providers/roaming, muni networks designed to serve *outdoor* areas
- Cellular networks provide near ubiquitous voice service, rapidly expanding data services

Reliability and QoS

- Best-effort approaches vs. carrier class infrastructure
- Limitations of 802.11 standards

Reality check:

- In urban areas, why not leverage fibre, bring it closer to user, especially for indoor usage?

Support for Multiple Applications

- VoIP is better in theory than reality
 - “but just wait for ... hybrid phones/ iPhone/ WiFi BlackBerry”
 - strength of carriers to restrict usability of WiFi
- WiFi networks may not support high bandwidth applications or mobile applications

Convenient, Portable Devices



- Looking for the 'killer device' with high usability
 - Battery life/Power supply
 - Ergonomics and location of use
 - Screen visibility?
 - Mobility? (Nomadic? Portable? Mobile?)

Usefulness/Value Proposition?

- Location of use (primarily outdoors) is problematic
- Many WiFi deployments provide additional coverage to populations that are already well-served (e.g. OneZone)
- Need for full internet access vs. basic connectivity?
 - Adoption patterns suggest mobile phones are far more useful than WiFi hotspots
 - Future convergence of WiFi/cell devices, or disappearance of WiFi?

Affordability

- Hidden costs of access
 - ‘free’ WiFi ... when you buy something
 - access devices are not cheap, new hybrid devices will require service contracts
 - tradeoff: cheap vs. reliable (the triumph of the BlackBerry among North American mobile workers)
- You get what you pay for?
 - What level of customer service is offered for WiFi users?

Build It and They Will Come?

- “Why build WiFi? That was a big question the people asked us. Why would you build a municipal WiFi network? Well, really what it came down to was leveraging our assets. We had assets in place, already in the ground, already on the streets, that made this a slam dunk for us.” David Dobbin, CEO Toronto Hydro Telecom

Is There a Market?

- “76 percent of Wi-Fi users are accessing the Internet from home, 26 percent from work and just 5 percent at outdoor spaces such as those that are typically served by muni networks.” Forrester Research report Muni Wi-Fi Networks' Uncertain Consumer ROI
- “One reason private companies may have been slow to the metro-WiFi market: it may not be such a good idea.” WiFi revolution hits a snag. Toronto Star, July 3, 2007.

WiFi vs. Cellular

- Public/quasi-public infrastructure vs. commercial/private infrastructure
- Commercial providers appear to have better long-term options to provide mobile, ubiquitous, network access
- Commercial providers have control of much of the infrastructure for mobility (e.g. spectrum for WiMAX, 3G)
- Are there business reasons for muni WiFi or is it just an expensive, transitory experiment?

Points to Ponder

- Why invest in WiFi when mobile telephone networks already provide ubiquitous (or near ubiquitous) coverage?
- Is the laptop the right device for mobile business? Why not focus on the device that people already carry with them, the mobile phone?
- If there are limitations to mobile business applications on handheld devices, does a shift to WiFi offer new opportunities? What is needed to make WiFi a more appealing, user friendly platform for mobile business?

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Community Wireless Infrastructure Research Project

The Community Wireless Infrastructure Research Project (CWIRP) project brings together an interdisciplinary team of academic researchers and community and government partners to engage in in-depth case studies of public/community-based ICT initiatives in order to document and assess the various models, best practices and benefits of public ICT infrastructure provision in Canada.

Community Partners

K-Net (NW Ontario)
Wireless Nomad (Toronto)
Ile Sans Fil (Montreal)
Fred e-Zone (Fredericton)

Our case studies - K-Net (NW Ontario), Wireless Nomad (Toronto), Ile Sans Fil (Montreal) and Fred e-Zone (Fredericton) - represent leading and innovative examples of public/community-based ICT infrastructure deployment in remote and urban community settings in Canada.

The CWIRP project promises to deliver a series of studies that, in addition to enriching the academic research literature on community ICTs, will help foster more informed discussion and debate within communities and policy making circles about the nature, benefits and challenges of community ICT infrastructure.

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