From phone box to FON: Re-configuring communication infrastructure in a wireless age

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“We are creating one of world’s largest WiFi networks here in Australia and linked across the globe. Telstra WiFi aims to offer all Australians – regardless of whether you are a Telstra customer or not – access to two million WiFi hotspots across the nation within five years ... It will also connect you in millions of places overseas through an exclusive partnership with global WiFi technology provider Fon”.

“With Telstra WiFi, we are moving WiFi outside the home ...”

May 2014 Media Release
(1) Situate Telstra’s wi-fi investment in the context of domestic and international public wi-fi development

(2) Outline parameters of wi-fi that establish the complexity yet desirability of deploying it as public communication infrastructure

(3) Illustrate how Telstra has responded to the complexities of public wi-fi deployment by reconfiguring two existing pieces of communication infrastructure:
   – Public payphones
   – Home broadband customer modems

(4) Conclude with selected comments on Telstra’s strategy
   – Effectiveness
   – Future of multi-form seamless wireless connectivity
   – Public wi-fi and the USO
Growth Phase 1
- 1999 Commercialisation of wi-fi
- American & European investment
- Limited Australian investment
  400 Telstra hotspots by 2005

Declining Fortunes
- Overly ambitious city-wide projects
- Business model uncertainty
  (Telstra closes paid casual and mobile subscriber hotspots in 2012)
- 3G/4G alternatives; related legal & legislative challenges

Growth Phase 2
- Smartphone/tablet uptake
- Hardware improvements
- Offloading data - Telco support wi-fi to reduce network congestion
  (Telstra’s aim?)
- New business models (Telstra broadband subscriber expansion/retention; monetisation of usage by subscribers and ‘guests’)
- Australian and Asia-Pacific investments
- Local government wi-fi advantage
How has Telstra responded to such complexities of public wi-fi deployment?
the payphone reconfigured

- 8,000 public hotspots (mainly payphones)
- Partnerships with retailers and councils
- Free access during trial (November 2014-June 2015)
- Restricted to Telstra Air subscribers after 30 June launch which introduced the FON home broadband sharing system

reconfiguring broadband customers as infrastructure providers

— Telstra home broadband customers may join Telstra Air by reconfiguring an existing modem or purchasing the Gateway Max ($210)

— Air members accessing the public wi-fi network (phone boxes or other customers' home networks) they draw down on their home broadband data allowance

— When O/S they can access other FON networks

La Fonera
Modem splits signal in two:
(a) Private home network
(b) Public FON AP

Linus
Free Provision
Free Use

Bill
$ Provision
$ Use

Alien
No Provision
$ Use

Your Global WiFi Network
Join Fon and get free access to 17,538,517
how effective is the FON system?

— There have been few studies of the effectiveness of FON home modem wi-fi sharing

— European analysis suggests a range of issues with access and quality of service provided [cf Puchol, 2006; Hariri, 2007; Becker et al, 2008; Veldhuijzen Van Zanten, 2008]; Middleton & Byrne, 2011]

— Connectivity issues likely to be significantly exacerbated in Australia based on residential geography.
a multi-form seamless wireless future?

— Telstra Air currently requires login authentication

— An alternative future could be automatic handover between 3G/4G and wi-fi
  [$/mb throughput savings, reduce cellular congestion]
— Telstra 20 year payphone USO contract: $44 million pa (USO = industry levy + $100m Fed Govt)
— Where does a commercial wi-fi service limited to Telstra customers fit within payphone USO contract?

— Mark Gregory questions whether Telstra Air is anti-competitive
— A more positive approach: open discussion about public wi-fi as an expanded USO