Are Multiple Broadband Infrastructures Sustainable?
Insights from Canada

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Broadband in Canada – Availability

- About 86% of Canadian homes are passed by cable or telephone company high-speed facilities
  - Nationally cable high-speed is available to over 90% of cable customers – or "homes passed"
  - In Bell Canada's Ontario and Quebec serving territory DSL high-speed is available to 83% of homes passed

Sources: *Status of Competition in Canadian Telecommunications Markets*, CRTC November 2004, p. 87
Broadband Battle: Canadian Broadband Forecast and Analysis 2003-2008, IDC, p. 18
BCE 2004 Annual Report, p. 8

* Based on Bell Canada and Rogers' service offerings as of June 2005

Broadband in Canada – Subscription

- Roughly 43% of Canadian homes subscribe to high-speed Internet service
  - 53% subscribe to cable high-speed service
  - 47% subscribe to DSL high-speed service

Source: *eMarketer*, March 2005

* Based on Bell Canada and Rogers' service offerings as of June 2005

Broadband in Canada – Speed/Price

- DSL moved from standard 1Mbps to 3Mbps for approximately C$45*
  - Premium "Ultra" 4Mbps service offered for C$50
  - VDSL being rolled out for MDUs in major centres
- Cable has standardized on 3Mbps for approximately C$45*
  - Also offering 5Mbps "Extreme" service

* Based on Bell Canada and Rogers' service offerings as of June 2005

Broadband in Canada – The Gap

- The 86% of Canadian "homes passed" by broadband are in only approximately 25% of Canadian communities
- As in many countries, smaller, rural and remote communities remain a challenge
- Bell working to bridge this "Digital Divide"
  - Bell subsidiary Telesat rolling out Ka-band satellite service offering 0.5Mbps-2Mbps for C$60-C$200/month
  - Alberta's SuperNet initiative to connect 422 communities (additional broadband projects in other provinces)
  - Various projects with emerging technologies (particularly wireless)

* Based on Bell Canada and Rogers' service offerings as of June 2005

How Was it Done?

- DSL
  - Coverage a result of telco's obligation to serve
  - 98.7 wireline subscribers per 100 households
  - Natural extension to use the same network for broadband
- Cable
  - Unintended result of broadcasting/cultural policy
  - Cable networks were an instrument for Canadian channels/content
  - Regulator allowed retail price increases to fund network build out (including upgrades supporting broadband)

* Based on Bell Canada and Rogers' service offerings as of June 2005

The Result

- Essentially Canada has two ubiquitous platforms for high-speed Internet
- Wireless offers the potential for a third
- Are these multiple platforms sustainable in the long term?

* Based on Bell Canada and Rogers' service offerings as of June 2005

The Real Question

- The question asked is one of economic theory – supply side considerations would suggest traffic will migrate to lowest cost network
- But our industrial model assumes the greatest consumer benefit arises from competitive behaviour between firms
- So perhaps the real question is whether the marginal benefit of network economies of scale outweighs the consumer benefits of rivalrous behaviour?

* Based on Bell Canada and Rogers' service offerings as of June 2005

Other Factors to Consider

- The two platforms are based on assets already in the ground – even if a provider goes bankrupt the assets will still be in the market
- Government policy is predisposed to multiple providers – the trend has long been away from the utility model

* Based on Bell Canada and Rogers' service offerings as of June 2005

Conclusions

- Given Canada's current economic model and existing competition laws, a single network model is unlikely for the foreseeable future
- Consumer benefits from competition (including technology and service innovation) between networks is likely greater than current attainable economies of scale

* Based on Bell Canada and Rogers' service offerings as of June 2005

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