



Toronto Hydro Telecom's OneZone: Commercial Competitor or Public Utility?

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TPRC 2006

George Mason University
Arlington, VA

September 29, 2006

WiFi service - OneZone™

- Signal 802.11
 - up to 7 Mbps bi-directional
 - ubiquitous coverage in zone
 - 30 foot building penetration
 - dual purpose for 'smart' power consumption metering
- Coverage
 - 2006 business core
 - 6 sq km
 - 2009?? entire city
 - ~ 1M households&businesses, 2+ million residents
 - 630 sq km

Sources: onezone.ca, Dave Dobbins presentation, April 27&Sept. 6,06

Technical architecture

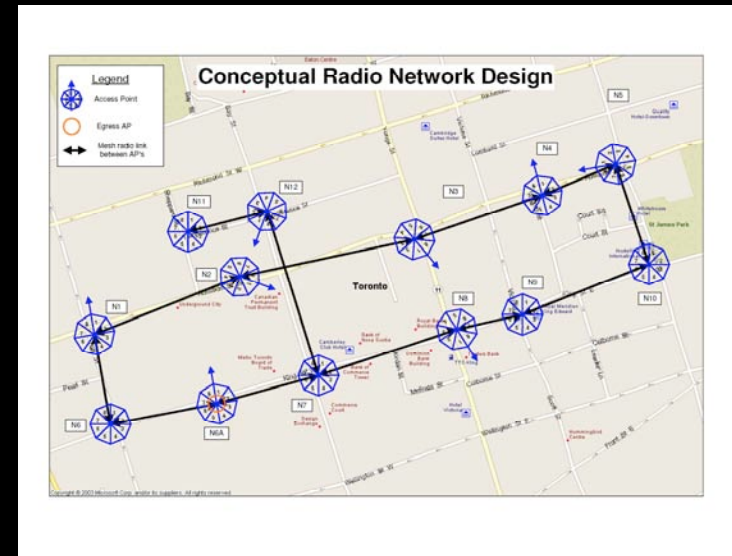
Physical infrastructure:

- Toronto Hydro street lighting attachments - 160K
- Antennae on every 7-8 posts

Multi-Radio Mesh (Siemens + BelAir)

- 802.11b/g used for Access
- 802.11a used for dedicated Backhaul
- Highly scalable—best suited for Metro deployments
- Low latency —good for Voice
- High resilience to interference

Backhaul: existing fibre infrastructure for backhaul from wireless Access Points

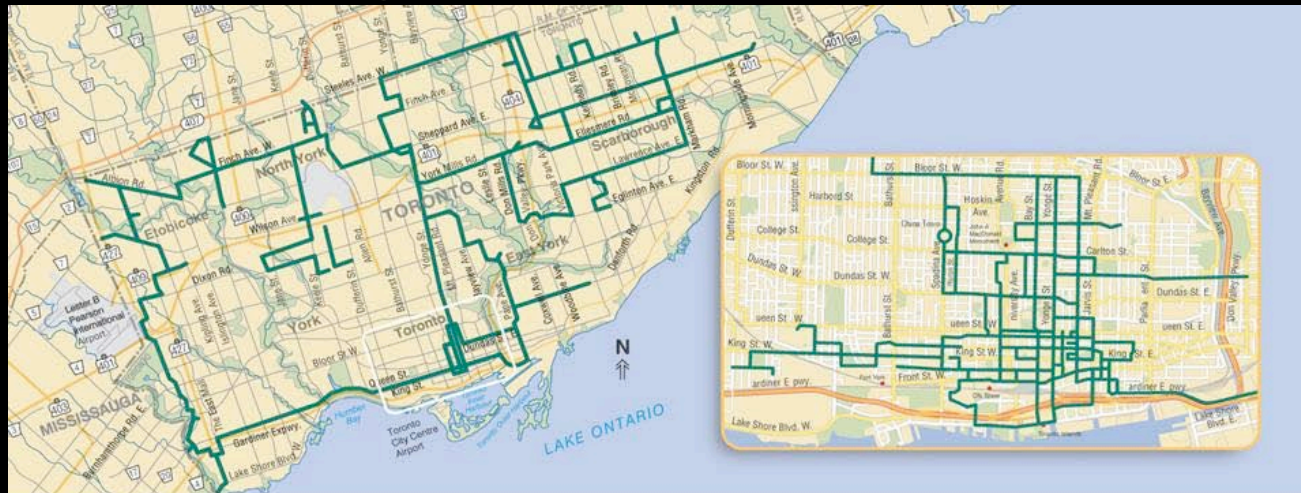


Sources: onezone.ca, Dave Dobbins presentation, April 27,06

The Provider - THT

Toronto Hydro Telecom

- wholly-owned subsidiary of Toronto Hydro Corporation, which is 100 per cent owned by the City of Toronto
- Over 450 km fibre within Toronto
- Data centre operates 24/7/365, servicing some of Canada's largest financial and business customers



Sources: onezone.ca, Dave Dobbins presentation, April 27, 06

Commercial competitor (current model)

Capital investment:

- \$2M for first phase, \$56M full coverage

Pricing (after 6 month free period):

- \$29/mo (\$10/day, \$5/hour) **\$348/yr**+taxes

Competitors:

- Bell Sympatico (DSL): Highspeed - **\$560/yr** \$46.95/mo
- Rogers (cable): Express **\$520/yr** \$43.95/mo

Payback period:

- ~1 year (with ~1% market share!)

Sources: onezone.ca, rogers.com, sympatico.ca, Dave Dobbins presentation, Apr 27 & Sep 6, 06

Public Utility (alternate model)

Costing assumptions: full city coverage, costs shared equally with the smart metering and a 3 year amortization

Capital investment: \$10M (full implementation)

Operating costs: \$40-50M/yr

Average annual household cost: ~\$50-60 per year

Funding options:

- property taxes or hydro bill

Benefits:

- Cost savings (\$300-400/yr) for 60% of households now with broadband
- Eased access for 25% of households now without internet access

Note: These rough calculations are our own. We have invited response from THT about these cost projections but they declined citing corporate policy not to comment on business models

Sources: Technical details - onezone.ca, Dave Dobbins presentation, April 27, 06 & Sept 6, 06.

Basic questions (suggestions welcome!)

- What is the rationale for publicly-owned and/or controlled ICT infrastructure today?
- What benefits have been achieved by these projects?
- What have been their shortcomings and the challenges faced?
- How has the public-private partnership model worked in this area?
- Can Municipal broadband wireless networks pay their own way? Should they have to pay their own way?
- Do Municipal network operators have a duty to provide access to lower-income households and/or public services (e.g. law enforcement, schools) access free of charge?
- Do Municipal broadband networks constitute unfair competition for telcos and cable cos offering broadband services in the same areas, or are they complementary in nature?
 - Should telecom policy and regulators examine this issue more carefully?
- Can Community Wifi initiatives be viable and sustainable in the medium term?
- Does the provincial or state government, e.g. the City Mayor, have a role beyond offering encouragement to these initiatives given the cited benefit of city investor attraction?
- Does the federal government have a role beyond ensuring spectrum availability? (Unlicensed? Free? Making available broadcast spectrum freed up by the switch from analog to digital broadcasting?)
- Would further public support be valuable and in what way?
- What has been learned from the experience so far that can guide future projects?