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Vaxination Informatique

Press the ANY key to begin



“The
internet is
as vital as
water and
gas”

Gordon Brown, Prime Minister of Great Britain
June 16, 2009

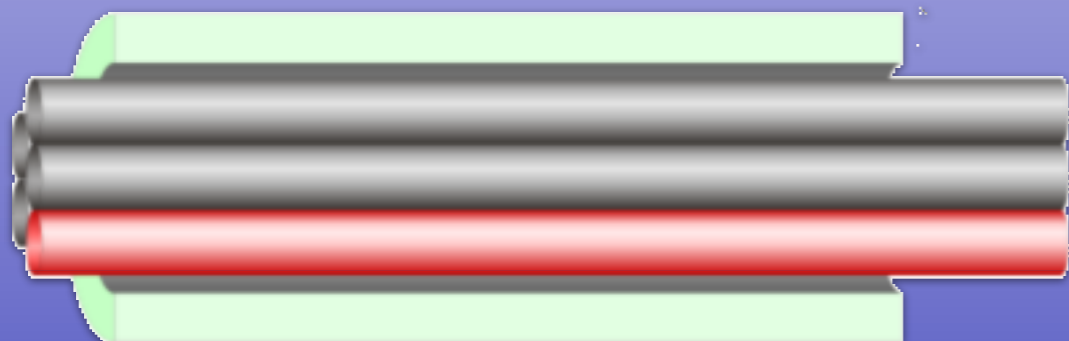
Let the internet evolve

- The myths of P2P
- Discrimination
- Innovation
- Competition
- Regulation

Proper context for P2P accusations



A gets same bandwidth as B



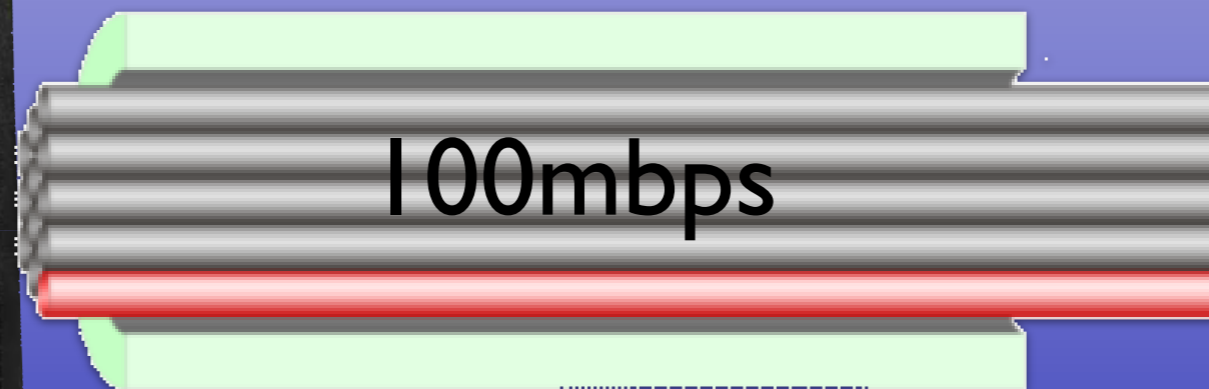
A gets 4 times more bandwidth than B



A gets 11 times more bandwidth than B

- Users can't exceed their service speeds
- Impossible for "A" to use 11 times more bandwidth than "B" when both have same service speed.

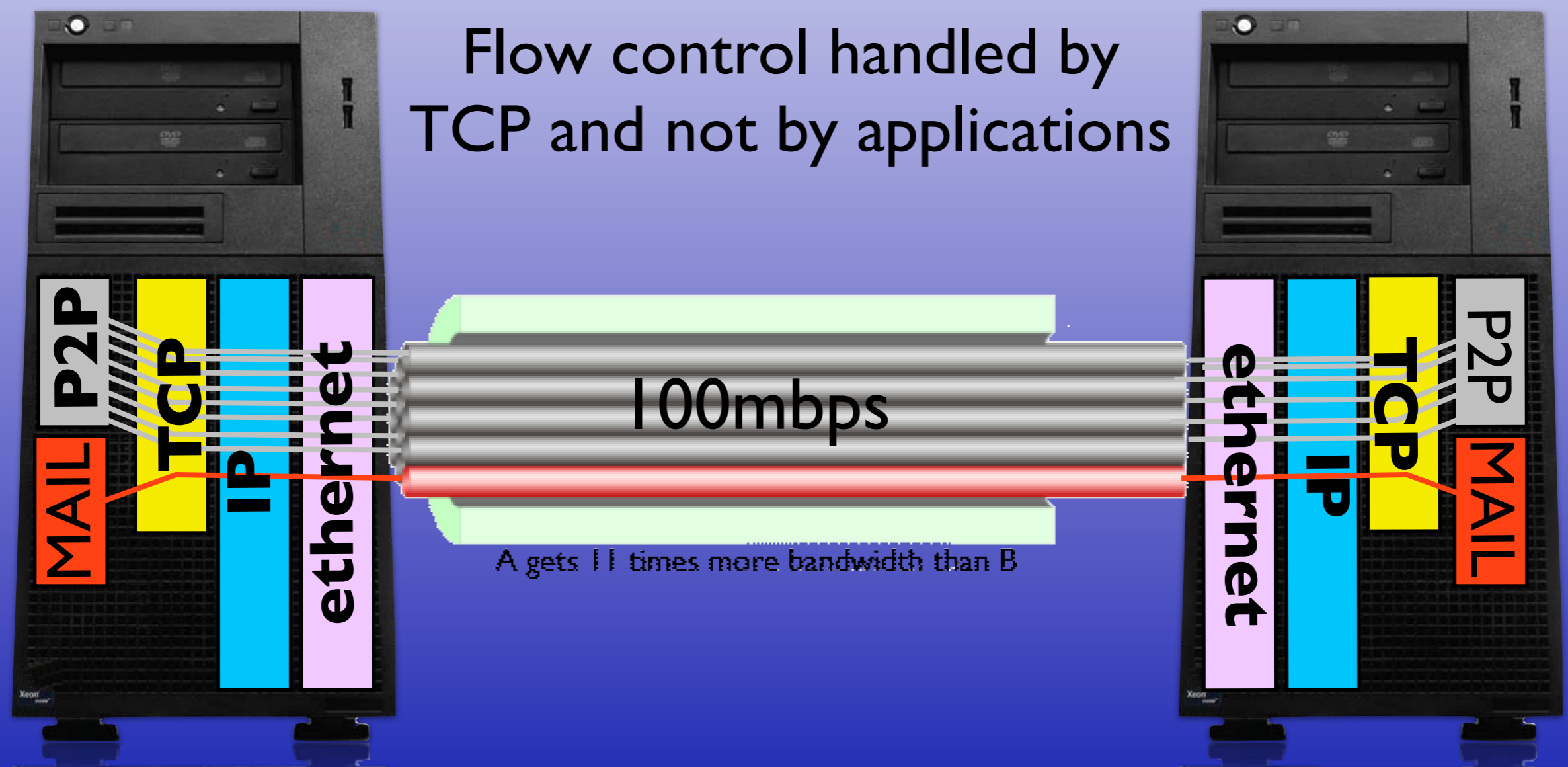
Allegation true for systems on same LAN



A gets 11 times more bandwidth than B



TCP applications behave the same



Modem speed determines throughput



10 TCP = 5mbps

1 TCP = 5mbps

A gets same bandwidth as B

P2P does NOT cause more congestion than others

- Downloading a 1gb movie from YouTube or Itunes or Bell Video Store will use as much capacity as downloading the same movie via P2P
- A 5gb HD movie from Apple Itunes is not throttled, but a 300mb short program is throttled on P2P. This is unfair and discriminatory.

Discrimination

- If you treat packets differently based on having inspected the packet's payload, it means you are discriminating based on packet contents.
- Inspection of packet payload is necessary to **guess** record layouts of the data and **deduct** what application might be generating the packet.
- Network management should focus on bandwidth use, not on type of application.

WHY PICK ON P2P ?

- YouTube is established, mainstream and backed by Google with deep pockets to defend its service. Legacy carriers couldn't be seen harming a popular service and would face lawsuit if they crippled the service.
- Too late to stop YouTube. Too difficult to stop iTunes.

WHY PICK ON P2P ?

- Peer to Peer is emerging technology, used only by early adopters, and not backed by commercial organisations that operate in Canada.
- Legacy carriers hope to *nip it in the bud* before it goes commercial and mainstream.

Why Pick on P2P ?

- P2P is *democratic*. Power to the people. Legacy carriers cannot control it easily and it can compete against their own content distribution businesses.
- But they can try to negotiate revenues from central servers like Itunes, Google etc. and hope to get them to pay to be distributed, like BT hoping to get paid by the BBC

Handling of heavy users

- Montréal based VIF Internet has had a system in place for 12 years:
- After 100gb in a month, a customer is given slower throughput, and this is implemented with conventional router technology.
- No need for DPI
- All of a user's traffic slowed during period, no discrimination

Innovation

- Each speed increase makes possible new applications.
- Fantastic evolution from from the original FedEx text tracking page to worldwide distribution of the movie HOME in HD quality via YouTube.

Innovation

- New ideas start as small, garage operations
- Early adopters tend to make full use and are *not necessarily representative* of typical use once it goes mainstream.
- Underground service catches on and eventually commercial services are formed. This is happening now with P2P. (Vuze, BitTorrent Corp and now Pirate Bay).
- Or a totally new business concept is born like Google

Innovation

- FAX killed Telex. Bell gained from CNCP
- Dial up Internet and Email killed FAX. Bell kept the phone lines and added Sympatico revenues.
- Who gets hurt if Internet displaces Television, Movies, Newspapers ? Compare that list with the list of legacy carriers most intent on throttling.

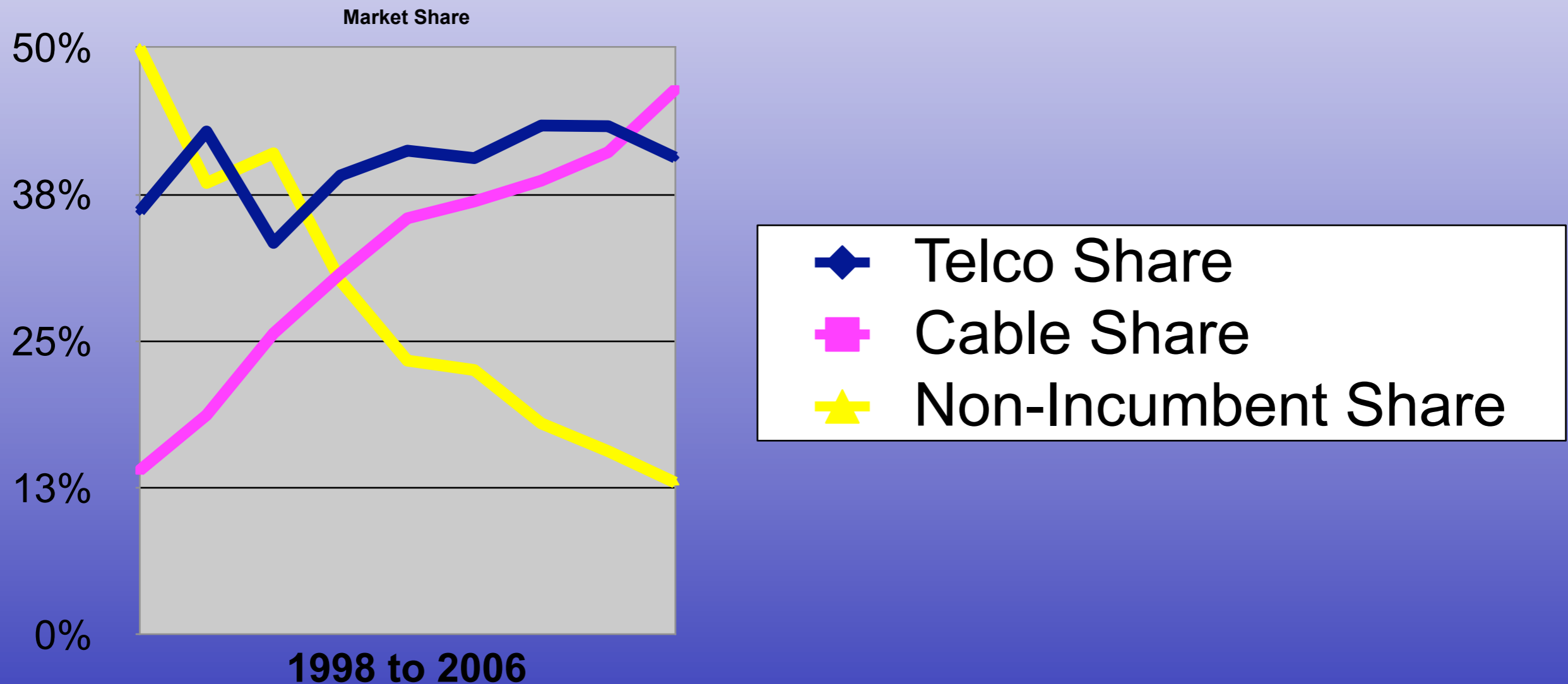
Innovation

- To succeed and lead in the world, Canada must foster new and innovative use of the Internet
- Increase available bandwidth to make new uses possible, instead of throttling to prevent new applications.

Innovation, part deux!

- ISPs and manufacturers are working on ways to slow down the internet (throttling). DPI equipment is regressive innovation.
- Competition pushes transit providers to increase capacity and lower costs.
- Why is this not working for ISPs ? Lack of competition and market concentration.

Innovation, part deux!



Source: CRTC Telecommunications Monitoring Reports

Competition

- Raising modem speeds enables the very applications which legacy carriers wish to throttle. So why raise the speeds ?
- Because legacy carriers have based their advertising strategies mainly on the advertised modem speed. Now they have to deal with their inability to deliver advertised speeds.

Competition

- Competition is healthy only when it is honest.
- With large media files, sustainable speeds are what now counts, not the burstable speeds.

Competition

- POTS: Telcos have adapted: fast busy or no dial-tone events are rare.
- They should do the same with the Internet.
- When usage patterns change, they should adapt capacity to support those changes.
- Customers expect the advertised modem speed to be usable without restriction just like their telephone.

Competition

- ISPs have marketing pressures to advertise higher speeds. But no controls on whether they can actually deliver those speeds.
- With ever changing usage patterns, difficult to establish standards on oversubscription, or even monthly usage limits.

Competition

- To make market forces work, the government must step in to force proper disclosure and let customers be better informed and thus make smarter choices that represent their needs.

Competition

- Proper disclosure should include max modem speed (burstable)

AND

- sustainable transfer speeds for large media files based on how much capacity per customer an ISP has, or throttled speed, whichever is lower.

Competition

- By forcing ISPs to drop their trousers and divulge how big their backbone really is, they will have motivation to quickly add capacity to match what competitors offer.
- Throttling allows ISPs to brag about having higher speeds while hiding the fact that their backbone is still small and unable to perform at those speeds.

Regulation

- To have an unregulated Internet, regulation is needed to prevent ISPs from regulating it for their own self interests.
- To have dynamic and evolving Internet service in Canada, proper divulgation of facts in advertising will provide the right incentives to let market forces move the market in the right direction.

Regulation

- Transit costs are going down.
- Equipment costs are going down per unit of performance.
- Proper government environment will cause market forces to work and result in better performing networks at lower cost.

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