I-PODs, I-Scalpels, 100gbs Internet2 and Carbon Footprints

BY MATTHEW CLULOW

In 2007, I attended an education conference. In one session, students argued strongly in favour of personal technology in the classroom while the public education system remained cautious. This has far reaching consequences for business.

In 1996, BC-TELECOM forged an alliance with University of British Columbia (UBC) to build a 10 megabyte, fiber optic network that linked UBC to remote locations. Barry McKinnon, a principal in Vancouver based, MCSQUARED Systems Design that installed UBC's advanced video conference system, pointed out several advantages.

> "The distributed learning model for medicine means that the students can stay in their communities and get the same level of instruction as they could if they attended UBC. This increases the number of students that the faculty can service without investing in bricks and mortar. Engineering and Commerce faculties are following along behind the medical school."

He also commented that universities are using telecom to reach students via entertainment devices such as I-PODS.

At Coppin State University, psychology professor, Christopher Brittan Powell turned the I-POD and cell phone into a competitive advantage. A simple, user friendly technology allows students to view pre-recorded lectures on I-Pods and cell phones. The documented result was higher enrolments, increased student retention, and better grades than students who only attended the face to face lectures.

University of Waterloo has started VeloCity, a place where the most talented, entrepreneurial, creative and technologically savvy students will be united under one roof to work on the future of mobile communications, web and new media.

At the recent Canadian Telecom Summit, Bill Archer, CMO, AT&T stated that there are 3-billion mobile devices in use today.

Between 2003 and 2007, Stanford University collaborated with the Universities of Wisconsin and Michigan. They pioneered the use of HD videoconferencing, test-beds for surgical simulation tools that include interactive 3-D tissue models and tools, and web-based stereo imaging of anatomy, viewable on a palm-pilot and at Northern Ontario School of Medicine distributed learning centre, among many other places. And yes, surgery via the internet is coming; a surgeon can operate from a location that is hundreds of miles away from both the scalpel and patient.

As you would expect, Internet congestion and latency would be a serious problem for distributed IP-based solutions, notably in life and death situations like surgery.

Stanford implemented 'network-aware' applications and middleware ('Internet weather stations') that monitor applications relative to end-to-end performance. Moreover, the Internet2 consortium who refers to this as an "on-demand, dedicated optical path between endpoints", upgraded their network to 100gbs in late 2006.

Internet2 is a consortium that was established in late 1996. Membership includes roughly 200 universities, 75 corporations, 40 government agencies, 45 international partners and an unknown number of researchers, presumably at hospitals and research labs.

Here's the hook. This is not a public Internet and never will be. In my opinion, the development of multiple, advanced private Internets will lead to several predictable imperatives for business. Universities are enrolling and retaining students through extensive, leading edge telecom applications.

When these students graduate:

1) Graduates with a choice will choose companies that are on-top of media intensive, gadget based solutions.
2) Internet2 partner/sponsor corporations will have first dibs on the best graduates, for the same reason.
3) Graduates will seek companies that provide asynchronous telecom based employment so they can avoid congested, gas-guzzling commutes; a life style they are accustomed to and often prefer.
4) Asynchronous telecom solutions for employment take cars off the road. In the last two years I have reduced my daily mileage from 45 kms to 16 kms by working electronically; a significant reduction in stress, my need for a new vehicle and my carbon footprint.

While this is not a comprehensive analysis, it's not a stretch to consider the idea that while Canadian and US manufacturing take a beating, companies that are connected, in some way, to 100gbs networks will have a significant competitive advantage over those who are not.

How long will it be before terabyte networks emerge?

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