

Network Insight Institute

Broadband Demand Drivers

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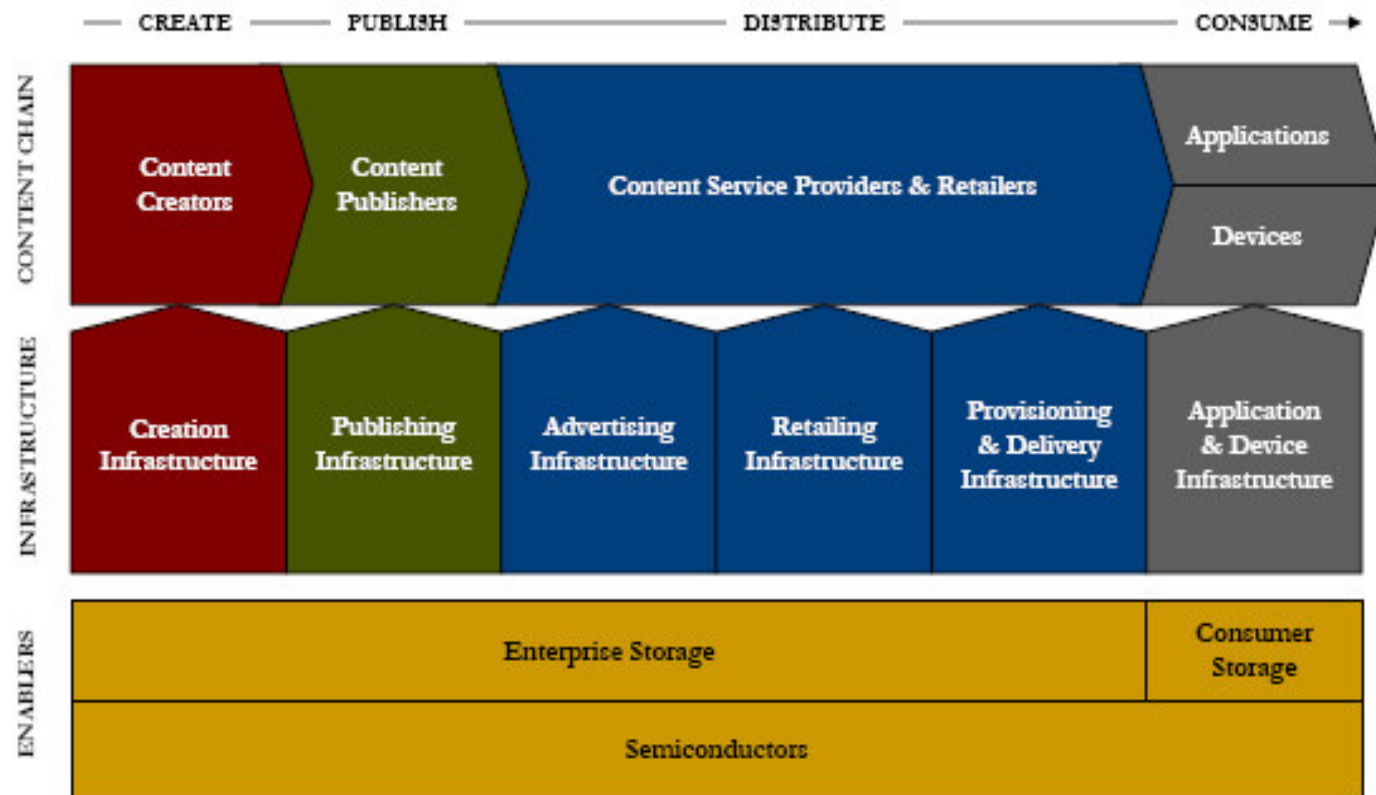
State of Play in Australia?

- Agree with Malcolm Alder: Australia is lagging in total broadband build-out and adoption, especially at speeds >1.5-2 Mbps synchronous
- Funding and political focus is on building out infrastructure to allow asynchronous BB, like IPTV, as telcos try for triple play ARPU
- Much less focus on symmetrical traffic that needs low latency high bandwidth (at least in bursts) – essential for dispersed virtual workplace, being competitive with BRIC countries' high skill workforces – and will be of interest to many consumers as applications of the Video Internet become apparent

Peer-to-Peer Broadband Focus Is Warranted

- This is the wealth-creating driver
- Real-time professional teams in multiple geographies (design, engineering, healthcare delivery, complex project management, real-time exploration...)
- Academic collaborations and online education
- Video content drivers are both multicast and peer to peer:
 - User-created content -people are creating videos on their own and then distributing them on the Net
 - Premium studio content is finding an Internet channel to market
 - Archive content (including “long tail” entertainment and education/corporate non-entertainment content)

Carriers Have To Understand Digital Media Industry Structure



Source: Rutberg & Co, July 2005

The Consumer “blogosphere”

- George Gilder (2005): “The model of television-based programming is disappearing. It’s based upon scarcity of channels and scarcity of bandwidth. As you create a broadband economy, broadband television dies. And in its place, you get blogosphere with millions of channels. You get a new culture, rather than a lowest common denominator culture like television and Hollywood.”
- Prodigem and Popcast – just two of the Bit Torrent-enhanced services emerging to form the “Video-Podcasting” indie community of personal content producers
- “Open Source TV” from the Web rather than “IPTV”

Murmurings from the New Frontier

- “The business (for content producers and distributors including knowledge outlets as educational institutions) is not anymore in having an audience of a million but to have a million audiences of one”
- “Inside or outside the academic establishment, nothing can be more certain than the fact that in the near future more individuals will bypass traditional academic systems which based their knowledge delivery approach on teaching methods. Such individuals will create personal learning pathways built around the newly unlimited content resources available online, previously accessible only to a few”

(Source: Robin Good, www.masternewmedia.org)

DivX claims

- “We’re building an entire ecosystem that represents a massive shift in the way we buy, store, and view digital video and audio”
- “160 million people around the world have downloaded DivX to date – 3 million new people add DivX to their PCs every month”
- “50 million copies a year of software distributed using DivX technology” (e.g. Sonic Solutions and Roxio, Pinnacle Systems, Intervideo, Cyberlink, Canopus)
- “People don’t gather around the PC to watch a video for home entertainment, but they do use the PC for two things, to first start processing and using video and then to edit and distribute video - so all personal video ultimately goes through a PC to be distributed”

Shipments of Content Creation SW and ATV devices growing fast

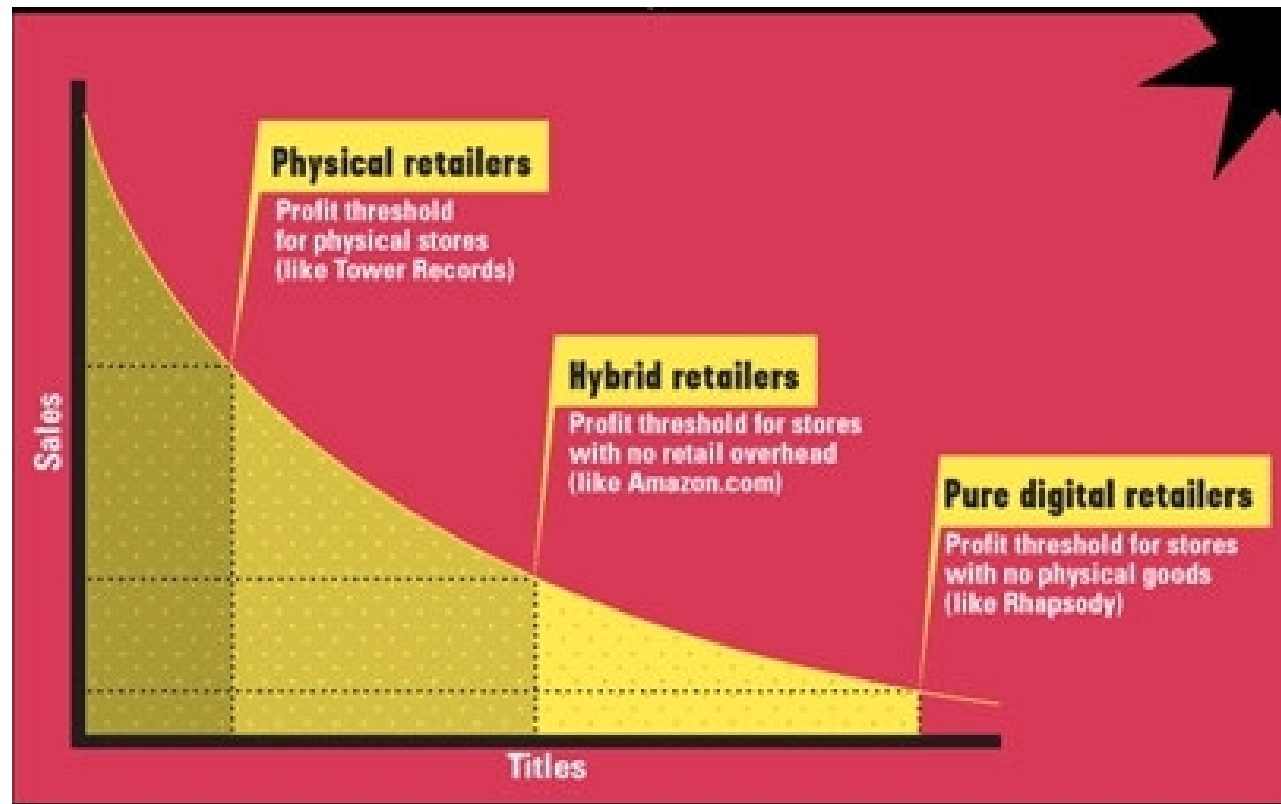
- Forecast US\$3.2 billion software revenues in 2005 for 3D Modeling and Animation, Digital Video/Film, Graphics, Desktop Publishing/Vector Graphics, and DVD
- Advanced TV worldwide semiconductor revenue doubled from US\$197 million in 2003 to US\$402 million in 2004, and the 2005 revenue is estimated to grow to US\$686 million.

(Source: Jon Peddie Research August 2005)

Device population is scaling rapidly

- In 2005, 50 million new devices that can play digital video will be shipped (20 million in 2004)
- These aren't just DVD players, they are still cameras, video cameras, digital media adapters, set-top boxes, game consoles
- DivX again: "You've got to get into consumer electronics - if you're going to win the convergence war, you've got to play video on the TV"
- Community of interest built on open-source codec, 2 billion video files already created
- Video search is on the way – massive developmental effort by Google, Yahoo and others

Chris Anderson's Long Tail supports huge digital media search demand



Source: Editor-In-Chief, Wired Magazine

Carriers Know It Is Coming But What Is “It”?

- Telstra Data & Online MD: very big challenge for nextgen network is for simultaneous streaming of 2x HDTV channels, 1x SDTV, all the BB Internet that you can eat and “free” VoIP at five nines QoS – current focus is on extending 2Mbps data beyond 1.5km from CO through ADSL 2+ and wireless 1xEV-DO
- All carriers are looking at MetroWeb/ FastWeb in Milan and other Italian cities - FastWeb’s marketing proposition is to offer customers a bundle of multimedia services at the same price that they would pay for voice services from another operator by laying fibre to the building in high density urban environments

Where To Focus Investment?

- Connect people where they live and work and can afford to stay – in the major cities and up and down the coast is more important than National Party electorates
- Enable digital content developers from tyros to pros
- Training and educations for jobs in the global Video Internet era
- Build out fiber to the curb ASAP (Telstra's plan) and to premises wherever density permits
- Make careful estimations of bandwidth required (FastWeb's 10Mbps Ethernet, Telstra's 6-8Mbps with broadcast video compression)