

[This is Stilgherrian's submission to topic area 2 of the Australia 2020 Summit, written 9 April 2008. To contact Stilgherrian, please go to stilgherrian.com.]

Broadband: It's about symmetry, not speed

This topic's background paper already shows that the speed of Australia's broadband internet falls woefully behind OECD leaders. Existing government plans are only playing catch-up, delivering what Japan, France and Korea already have.

Raw speed is not the only factor. Just as important are three other factors:

1. The symmetry of the connection — that is, the ability to upload data to the internet as fast as it can be downloaded.
2. The latency — which can loosely be explained as the time between a user sends data and its arrival at its destination.
3. The price, especially the price of the data transmitted in each direction.

Items 2 and 3 are engineering and market problems. However the first item, symmetry, is critical to moving into the networked age.

Most current broadband connections are asymmetrical, with faster download speeds than uploads. For example, ADSL2+ technology might have download speeds exceeding 12 megabits per second, but upload speeds are only 1 megabit per second.

This builds into the very network itself the idea that internet users are “consumers” of data which is generated elsewhere — that the internet delivers “content” which is created by a relatively few large entities.

Yet the key benefit of a networked society is *collaboration*. And to collaborate effectively, everybody needs to be able to send high-bandwidth data — whether that's video, audio or shared data of some kind we have yet to imagine — even if it's only to an audience numbering in single digits.

As Chris Anderson's book “The Long Tail” makes clear, when the cost of distributing information plummets then it becomes possible for micro-markets to appear. An idea no longer needs a budget of millions of dollars and a correspondingly large audience to have relevance. Mass production turns into mass participation and mass customisation.

However the existing media and communications empires are built around the industrial-age idea of centralised control and delivering a uniform product to everybody. They will resist any attempt to democratise production and distribution. They will tell you that only vast national organizations can deliver reliable network infrastructure, when past experience should tell us that they precisely fail to do that.

Regional and local organizations could well do a better job of connecting communities — and those communities could then simply cross-connect to create a national network.

The technology already exists. It's not a technical question. It's a question of how to best structure an organization, or an industry, to deliver the most flexible and cost-effective network infrastructure for Australian communities.

Small and medium-sized business usually respond faster and more flexibly to market demands. Bloated national and trans-national corporations may not necessarily be the answer.