

ATUG Focus 20 May 2009

This week, ATUG's Focus is on the development of Australia's Digital Economy and the many issues arising which need to be addressed to ensure Australian businesses and consumers get full advantage from the NBN and the Digital Economy which can now be developed.

Future Forums will focus attention on the needs of businesses and government, and their customers, in a Digital Economy which is information rich, videocomms friendly, interactive, and transaction-intensive.

The 2009 Future Forums will look at

- Infrastructure and Access Services – NBN, 3G mobile and wireless developments; Digital TV; coverage, competition and consumer framework; quality of service options, informed choice
- Innovation and Applications – new businesses, new business and government service models, new ways of working, new skills,
- Integrity and Assurance – e-capability; e-security, privacy; digital confidence; empowered consumers

ATUG's focus will be on policies and programs that need to be in place to support the accelerated development of Australia's Digital Economy.

Issues covered include:

- Migration from IPv4 to IPv6 and the implications for Australian businesses
- Embedding "smart" in infrastructure projects beyond the NBN
- Dealing with transaction/identity fraud/privacy/security in an all digital economy
- The Internet of Things
- Teleworking uptake
- Greening the Digital Economy
- Re-skilling the workforce/population for a Digital Economy
- New business models for content businesses
- Digital Economy Administration – domain names; email addresses;

DBCDE is currently reviewing submissions to its Digital Economy Future Directions Consultation Paper. http://www.dbcde.gov.au/communications_for_business/Digital_Economy_Development/digital_economy

The issues canvassed in the consultation paper were:

- Open access to Public Sector Information
- Digital Confidence
- Developing Australia's knowledge and skills base
- Ensuring Australia's regulatory framework enables the digital economy
- Digital economy and the environment
- Measuring the digital economy and its impacts

ATUG began the 2009 national series of Future Forums on May 5 in Sydney. Details of the edited podcast will be available through ATUG This Week.

Forum Think Piece presentations were by:

- [Ric Clark, Alcatel-Lucent](#)
- [Eric Hamilton, Unwired](#)
- [David Havyatt, Havyatt Associates](#)

A digital economy was defined as an economy based on electronic goods and services produced by an [electronic business](#) and traded through [electronic commerce](#). That is, a business with electronic production and management processes and that interacts with its partners and customers and conducts transactions through [Internet](#) and [Web](#) technologies.

The Forum Chair, Katherine Sainty described the core characteristics of a fully functioning, effective Digital Economy:

- Supports strong competition
- Encourages business investment
- Enables consumer participation
- Allows government to deliver services more effectively
- Supports low carbon knowledge based services

A Digital Economy would create a positive climate for investment in applications and services and support growth in this sector to the point where Australia is a net exporter of content services – whether entertainment, information or business content services. The Digital Economy must develop business models which reflect the value of content services to avoid the entertainment piracy problem of today becoming the business content piracy problem of tomorrow. Is today's approach to Copyright and Patent protection is the right approach for a Digital Economy? Will business models change to the extent that "free" use will be bundled with access revenues shared along the value chain?

The Digital Economy is likely to be a Global rather than Local Economy. Australia has a strong tradition of innovation in both technology and content. Should the models of government support for such innovation be continued or strengthened in a Digital Economy? Should new models of business be developed and accelerated for a Digital Economy?

Confidence in the Digital Economy will be key to full participation by businesses and consumers. Digital literacy, privacy controls, security controls, affordable entry are all elements of an overall policy supporting Digital Inclusion.

The switch over to Digital Television may provide a wider opportunity for public education and awareness of the broader move to a Digital Economy.

Think Piece presentation by Ric Clark, If Video is "It", how do we determine "How Much" is enough? As the Minister commented in his Address to the National Press Club at <http://www.minister.dbcde.gov.au/media/speeches/2009/013>

... one of the largest providers of network connectivity in Asia, has predicted that video-based applications for business, social services and consumers, will comprise more than 95% of all broadband data in the years to come.

These new services and applications will drive business productivity and efficiency across the economy.

A Digital Economy will see many other sectors seeking direct access to the NBN and not wanting to be part of a single operator's "walled garden". Telcos will see utilities, health and other service providers (eg internet) wanting direct access for their services to their customers via the architecture and access arrangements of the National Next Generation Network. Demands by end users to provide seamless integration between mobile and fixed services will increase. Such flexibility is likely to increase complexity for operators and inter-operator processes.

Fewer network node points in The National Network (aka NBN) will raise risks for Critical Infrastructure and challenges for continuity of service.

The replacement of copper by fibre will impact on issues such as Emergency Call operations, Lifeline services, Security, Universal Service arrangements, special service support (alarms, sensors etc), interoperability, resilience.

Alcatel-Lucent has prepared two information papers explaining the difference between the previously mooted FTTH architecture and FTTP and canvassing architectural choices involved in NBN. These papers are available at:

<http://www.atug.com.au/futureforum/alcalufttp.pdf>
<http://www.atug.com.au/futureforum/alcalunbn.pdf>

Discussion

Discussion after this Think Piece included the role of technology in ensuring security in a digital economy; the role of ICANN in supporting a Digital Economy; whether the current structure for technical administration of the Internet support an effective Digital Economy; the wider question of numbering/naming and addressing arrangements in a Digital Economy and the transition from IPv4 to IPv6 to support the development of the Digital Economy.

Think Piece – The Road to 100M Connections, Eric Hamilton, Unwired

The presentation started with the question – what does the consumer want today? What applications are being used? What devices are preferred?

Consumers want to stop worrying about the “What and How?” of being connected to the “Which?” of applications being provided and used.

The Internet of Things will move beyond connecting places (premises) to connecting people and then to connecting devices.

The features of an open service model include:

One user, one device, one ARPU	Open service model
One user per contract	Vertical applications include many connections
One device per subscriber	Multiple (and increasing) number of devices per subscribers
Devices are mostly phones or laptops	Increasingly CE devices complement phones and laptops. In-vehicle, M2M application-specific devices
One ARPU per subscriber	Some devices may have no ARPU, some have high ARPU, some low
Limited plan selection	Wider range of plans and service providers over the same network
Best-effort service	Traffic can be prioritized to improve market segmentation
Device subsidy	Subsidies not required on secondary devices
Service provided directly by operator or MVNO	Device vendors or content providers may sell the service

The Digital Economy will be an Internet of Things enabling:

- Passive sensors and active sensors
- Smart meters connecting home to grid
- Car to car networks
- Car to traffic infrastructure networks
- Smart medical monitoring
- Mobile ticketing/payment and transactions
- Peer to peer communication

Discussion:

Consumers want one account – for multiple devices and many locations. This means industry will have to develop a new approach to its business model. The current model assumes one device links to one network. The new model will allow one device to link to multiple networks.

The model will encompass ubiquity of connection with openness of access, devices and applications.

The business model may turn on its head – consumers may buy content which includes “free” access eg charges for e-book content include access to the content. We need to value bytes not bits.

Quality of service needs may mean Class Licensed Spectrum is not suitable in a Digital Economy. Pilots based on class licensed bands saw significant increases in noise levels affecting service levels.

Business needs to get involved in debates about spectrum – so that highest value uses can be properly identified and valued.

Think Piece by David Havyatt of Havyatt Associates canvassed a number of issues including the fact that the NBN is NOT the Digital Economy AND the Digital Economy is a lot more than a lot of online services.

The “digital economy” refers to the transformation of economic and social transactions, organisation and relations enabled by the combined use of information processing and telecommunications technologies, such as the Internet and mobile communications. It includes commercial transactions, personal dialogue, and machine-to-machine communications for the delivery of information, entertainment and services. The term includes concepts referred to as ‘internet economy’ and ‘information society’.

The Digital Economy opportunity in regional Australia is about livability and services and about productivity goals in industries such as primary production and transport.

Big Policy issues include:

1) Bandwagon (Network) Effects – the network is more valuable to the Digital Economy than to any of the individual digital economy actors

2) Public Goods/Club goods/Private goods – Defence/Golf Courses/Cars
A Digital Economy can facilitate social structures which enable collaboration and support co-operation

3) Sub-additive cost functions – One FTTP network will do; two FTTP networks would be inefficient. Does the same logic apply to Wireless networks? Should we be thinking about a single Wireless NBN?

4) Sorting the hype (NBN) from the opportunity/hope (the Digital Economy)
The Digital Economy is Global in nature and opportunity – and needs Global Rules of Engagement eg numbering, naming and addressing and global standards for security.

Discussion

Regional opportunities do include professional service delivery eg architects. Public policy should encourage the relocation of professionals because of the multiplier effects on local economies. Hubs and clusters in regional areas create critical mass and momentum

Teleworking more broadly should be a feature of employment in a Digital Economy. How would video based communications add value to interactions eg managers/staff; customers/call centres?

Regulation based on private costs/private benefits will not reflect the real opportunity of the digital Economy. Individuals making rational economic decision will not capture in their decisions the real value of the Network Effects in a Digital Economy. Individuals will not take account of wide social benefit outcomes in their own decision making. User pays may not be a concept that supports the development of the Digital Economy.

Dynamic efficiency and creative innovation will be a key feature of an effective Digital Economy. Open Source working and a Creative Commons approach will be innovation drivers in a Digital Economy. What is

role for Copyright? What do Digital Economy Business Models look like? Charges for applications might include charges for network access – like the e-book example earlier.

How do we shift customers' attitudes in regard to paying for content? Rather than access? Will cost savings shift attitudes? Will payment be through other mechanisms eg Health Insurance, taxation, application service providers?

Issues are different in different sectors - Australia's Retail Sector has no tradition of catalogue shopping and so has not developed the logistics systems needed to support retail distribution in a Digital Economy. In the Health Sector a key issue is who owns the Health Record? How best to secure and store the record? How to protect personal information?

ATUG looks forward to the discussion and feedback from the next Future Forum in Melbourne on 25th June.