

ACS Telecoms Address - Nation Building in the Digital Age

Senator the Hon. Stephen Conroy - 11 October 2013

Introduction

The ACS Telecoms Address recognises the ongoing convergence of information and communications technologies.

Telecommunications has played an enormous role in building our nation. The significance of the Overland Telegraph is widely recognised; the effect on our economy of connection to the rest of the world was immense.

But so was its impact on the politics of the colonies. For some fifty years before federation the Post Masters General of the colonies met regularly.

In his book *The Wired Nation Continent*, Kevin Livingstone notes that the Canadian federation was established largely for the purpose of constructing railways to the Pacific and Indian Oceans. Livingstone argues that communication played the crucial role in Australia's federation that transportation played in Canada.¹

Today I will talk first a little about the role government should play in nation building. Secondly I will explore the concept of the digital age – what it means and how far through the journey we are. Finally I will bring the two together to talk about how the Government addressed the issue over the last six years, and what still needs to be done.

Nation Building

A common but inaccurate refrain in public commentary is that not a lot distinguishes our two main political parties. The role of

Government in nation building is one of the major dividing lines between the parties.

It was not always the case.

In the nineteenth century and most of the twentieth the conservatives - be they Free Trade, Protectionist, Nationalist, UAP or Liberal – recognised the role of government in nation building. Conservatives and Labor alike invested in railways, post and telephone services, roads, schools and hospitals.

But it was Labor that built the trans-continental railroad. It was Labor that built the Snowy Mountains Scheme. And it was Labor that unshackled Telecom Australia from the Post Office in 1975. In the following ten years the proportion of homes with a telephone went from 62% to 87%.²

Since the neo-liberal revolution in the 1980s the conservatives have shied away from nation building.

When Labor talks about infrastructure we talk about building communications networks, urban rail and interstate roads and rail. The conservatives talk only of roads, mostly urban roads - and, like the WestConnex project here in Sydney, urban roads with tolls.

So when I talk today about nation building in the digital age I want to emphasise that this is politically contested ground. The two sides of politics have very different views on the role of Government in nation building.

The Digital Age

It is also useful to talk about what we really mean by the digital age.

After all, concepts of the information society or the information economy have been around for forty years or more. In 1973 Daniel Bell wrote *The Coming of Postindustrial Society*. His study was a venture in social forecasting.

He based his study on the changing composition of the workforce in advanced Western nations. In 1956 white collar workers in the US outnumbered blue collar workers.

By 1960, 58% of the world's workforce was still employed in agriculture, with 19% in industry and 23% in services. But in Northern America it was 8%, 39% and 53% respectively. In Australasia it was 23%, 34% and 43%.³

In 1986 James Beninger identified some 82 different terms that had been applied between 1950 and 1984 to refer to the economic change wrought by communications and information technology.⁴ 'Information economy' first appeared in 1977, 'information society' in 1981 and 'information age' in 1982.

Last month was the twentieth anniversary of the Clinton Administration's Agenda for Action on the "National Information Infrastructure." Back in 1993 the agenda stated that "Development of the National Information Infrastructure can help unleash an information revolution that will change forever the way people live, work, and interact with each other."⁵

That report, written by Larry Irving, asked Americans to imagine the further the dramatic changes to their lives if:

- The best schools and courses were available to all students, without regard to geography;
- The vast resources of art, literature, and science were available everywhere;

- Services that improve health care system were available on-line when and where you needed them;
- Telecommuting to your office through an electronic highway;
- Small manufacturers could get orders from all over the world electronically in a form that the machines could use;
- You could see the latest movies, or bank and shop from the comfort of your home whenever you chose; and
- You could obtain government information directly, apply for and receive government benefits electronically.

So as far back as 1993 the breadth of change was being discussed and understood.

The term “information infrastructure” had an expansive meaning. It referred to more than just the physical communications facilities.

It also included the increasing range and variety of connected devices, the information itself and applications. And it included the people who create the information and develop the applications and services.

Here in Australia in 1997 Rod Tucker made a series of observations about the opportunities offered by broadband in an article for *The Australian*.⁶

There were three key points in the article:

- people would use video conferencing from home to communicate with their colleagues, friends and families.
- the amount of data flowing into to each home on broadband would be so large that telephone calls would become essentially free.
- that each home would need 100 Mb/s download speeds.

Also in 1997 the Australian Information Industries Taskforce presented its report *The Global Information Economy: The Way Ahead*.⁷

Taskforce Chair Ashley Goldsworthy in his transmittal letter to John Moore, Minister for Industry, Science and Tourism, wrote;

*“The information industries are the sleeping giants of the economies of the 21st century. Our policy makers have to develop a **Sense of Urgency**.*

If we, as a nation, are to compete effectively in the global market place in the decades to come we must become leading and proficient users of information technology...

The effective use of information technology will underpin the international competitiveness of almost every business and industry.”

Those words seem to be as pertinent today as they were then.

So what has happened that we are still debating the importance of information and communications technologies fifteen years later? Why hasn't the necessary infrastructure been created to support this vision?

Part of the answer lies in the failed policy of infrastructure based competition. Nowhere has this been as dramatically demonstrated as in Australia.

Distribution networks like water and sewerage pipes, gas pipes, electricity wires and telecommunications cable are natural monopolies. Broadband competition using ADSL operated over the monopoly copper network.

Part of the answer lies in the change in language.

The move to talking about a digital age or digital economy started at the very end of the last century. Both were used by US Department of Commerce in a 1998 report title *The Emerging Digital Economy*.⁸

It reflects in many ways the point at which the long discussed convergence of computing and communications became real. Communications started to change to become inherently digital in nature; and through the internet computing started to become inherently distributed.

The move from the information economy to the digital economy is akin to the change that happened to industry when steam engines were replaced by internal combustion engines (Benz 1879) and electric motors (Gramme 1871).

None of this is surprising to the ICT industries. You are used to the exponential growth reflected in various laws.

Moore's Law that the number of transistors on an integrated circuit doubles every two years (or eighteen months) is the most widely known.

Nielsen's Law of Internet bandwidth is possibly less widely known. It states that a high-end user's connection speed grows by 50% per year.

They stand in stark contrast to Abbott's Law stated in April that 25 megs is more than enough bandwidth for Australian households.

The digital age is upon us, but the realisation of the opportunities it presents is really just beginning.

Labor's Approach

As I said at the outset, Labor and the conservatives have very different approaches to nation building in the digital age.

A Government acts most directly by taxing, by spending or by legislating. But Government also acts in providing leadership and guidance.

The promise of the digital age was indeed well understood.

We started on realising it on day one by creating the Department of Broadband, Communications and the Digital Economy.

Labor's policy on broadband formed in Opposition was an essential part of this name change, so was the wider agenda. So as well as focussing on broadband we started a national discussion about the digital economy.

Over the last four years we released three major reports;

- *Australia's Digital Economy: Future Directions* in 2009;
- the *National Digital Economy Strategy* in 2011 , and
- *Advancing Australia as a Digital Economy* earlier this year.⁹

These reports were dismissed by Malcolm Turnbull as justifying the NBN by "framing it as a pre-requisite for global digital greatness."¹⁰

This is the Coalition's fundamental error – they don't understand that we are building the NBN because of the promise of the digital economy.

We are not talking about the digital economy to justify the infrastructure investment. Labor made the decision to invest in

broadband because of its importance to our economic and social future.

The Coalition response to our initial broadband policy was to assert that the private sector would build broadband for our cities. The Coalition only has a broadband plan because, as Peter Reith identified, the failure to have a credible broadband policy cost them the 2010 election.¹¹

Labor's approach to the Digital Economy actually focussed on three areas – providing the physical infrastructure, developing services and building national capability.

The Physical Infrastructure

Labor's commitment to build a new national broadband infrastructure was forged in Opposition.

It was first announced by Opposition Leader Kim Beazley in his budget reply in May 2006.

The policy when released emphasised the need for a new access network to deliver structural reform and to have a clear upgrade path.

Three factors resulted in the need to move from the initial plan to build Fibre to the Node and instead build Fibre to the Home.

The first was the resistance of Telstra to structural reform. This resistance led them to submit only a brief non-compliant tender response and they were excluded from the process.

The second was the impact of the Global Financial Crisis on alternative bidder's ability to raise capital.

But thirdly, and most significantly, the Expert Panel advised the government that FttN was not a cost effective path to a full fibre network.

Here I need to dispel a popular myth that the plan to build a full fibre network was dreamt up by the Prime Minister and I on a plane.

Because I wanted to propose to Cabinet a different course, as per standard Cabinet practice, I needed to obtain the PM's approval to bring an alternative plan to Cabinet. This was in the midst of the response to the GFC, and that conversation was on a plane.

The extent of consultation that followed, both with Government agencies and through Cabinet committees, is already on the public record. Students of history can find them in the Hansard for Senate Estimates in May 2009 and a speech I gave to the Fibre to the Home Council in the same month.

The costing for the initial announcement was provided by Finance and Treasury. The Cabinet decisions on equity contributions were only made after both the Implementation Study and NBN Co's initial Corporate Plan.

The latest public information on the project is the Corporate Plan submitted by NBN Co in June 2013.¹²

It showed the company still forecasting the project would be completed by June 2021 and for a CapEx of \$37.4 billion – on time and on budget.

However, it is undeniable that NBN Co failed to meet the targets set for June 2013 in either the first or second Corporate Plan.

Mr Turnbull has also claimed that there will be further reductions to the June 2014 forecasts because of the suspension of Telstra remediation.

There are five major components to the project. As well as the three access networks of fibre, satellite and wireless the company is also building a transit network and essential IT systems.

Only one of the five, the fibre roll-out, is significantly lagging; due to the failure of the construction industry to mobilise resources. That said, relative to the scale of calamity that can befall construction projects, NBN Co has been a well-managed project.

NBN Co has always stated that there will be a ramp up in construction activity. The biggest threat to that ramp-up will be the extent of any delay while Mr Turnbull's new Board goes through its reviews.

The next biggest threat will be additional delays caused by another negotiation with Telstra and a revised set of expectations of the construction industry.

I can understand those who are disappointed with the progress on the fibre roll-out.

Any further delays to the roll-out beyond the schedule in the revised plan already submitted to Mr Turnbull will be the consequence of his policies.

At the heart of our approach were two fundamental principles.

The first has been to fix the industry structure and get sustainable retail competition.

The second principle has been to make sure that when we make an investment in long term infrastructure, not a stop-gap.

There is really an embarrassment of data sources one can find for the ongoing increase in demand for bandwidth.

The Cisco VNI data would be familiar to this audience; it continues to predict increasing volumes of IP data.¹³

Cisco's Bob Pepper told a conference in New York two weeks ago that Cisco has gone back to compare their earlier forecasts with actual outcomes.¹⁴

They have historically mostly underestimated the extent of the growth of traffic, but have been within 10%.

The ABS released its latest half-yearly Internet Activity report earlier this week.¹⁵

It demonstrated again that the amount of data downloaded per fixed service grows at about 25% each half year, while wireless has not grown. It also shows that 93% of all downloads are on fixed lines and this proportion has grown slowly over the last six months.

But perhaps the most compelling case for the need to plan for increasing demands for bandwidth comes from Malcolm Turnbull himself.

When Mr Turnbull was an investor and chairman at OzEmail the internet access was through dial-up.

In April 2009 he said on radio in Rockhampton;

*"When I was in Mackay yesterday I was getting 3.5MBs speed...from a practical point of view that enables me to do everything I need to do."*¹⁶

In August 2011 at the National Press Club he announced a plan for a 12 Mbps service, saying;

*"Australians within the designated areas have access to a rapid upgrade in broadband services to at least 12 mbps as soon as possible."*¹⁷

And then at the Coalition policy launch he stood by his leader when Mr Abbott said;

*"We are absolutely confident that 25 megs is going to be enough - more than enough for the average household."*¹⁸

And finally you only have to look at actual demand for fibre to the premises. Take-up rates have been at world leading rates. And one third of customers are choosing a plan with download speeds above 25 megabits per second.

Labor's infrastructure focus has not only been on fixed line. The process of digital switchover had stalled under the Howard Government; no timetable had been established for analogue switch-off.

By getting switchover on track Labor released the 700 MHz and 2.5 GHz spectrum needed to handle further wireless data.

Digital Services

To realise the benefits of the digital economy, all parts of our economy need to develop services that utilise digital technologies.

To this end Labor in Government funded projects in various aspects of service delivery. To ensure these investments made the most of the opportunity they were tied to services delivered over the NBN.

This included telehealth projects including remote consultations and in home care for chronic conditions.

There were programs to assist elderly Australians receive services in their homes, and support for young Australians with hearing and sight difficulties.

We also funded a range of education projects, including those that extended the reach of our major performing arts, galleries and museums.

The full details of these can be found in the various reports I highlighted earlier.

A common theme about all these programs was the need for a central driver and champion within Government.

In June we announced Digital First, the policy that digital channels will become the primary means of delivery for government services.

The Government also sought to further develop the capabilities of business. In this we were largely responding to calls from the Australian Industry Group.

Through the Digital Enterprise centres and funding the development of sectoral Digital Business Kits we sought to increase business engagement.

The AIG has just this week called for the ongoing investment in these programs. They have also said that business needs the reliability and availability that only fibre can offer.

And over the top of this we continually sought to engage in a discussion about the importance of the Digital Economy. Many of you will have been engaged in our conferences and events on productivity, cloud and telework.

Capability

The initial Digital Economy Strategy did not address some common issues that affect all sectors ability to realise the digital future.

In the 2013 update these were referred to as “enablers”. They are programs of work that build the national capability in digital services.

High on the list was the issue of ICT skills, an issue that is a particular focus of the Australian Computer Society. The coalition decision to cut \$42 million from NICTA funding will dramatically reduce the number of students able to complete an ICT PhD.

The other enablers included a safe and secure environment, a supportive environment for digital industries and harnessing the benefits of cloud services.

These are programs on which Coalition policy has been completely silent.

Conclusion

The conservatives and Labor take different approaches to nation building.

In Government Labor undertook to build the physical infrastructure, develop services and build national capability to become a leading digital economy.

But the physical infrastructure is a critical element.

In the Coalition’s policy for e-Government and the Digital Economy they listed South Korea, Denmark, Sweden and

Singapore as “nations with the most mature and sophisticated digital economies”.

The first three of these are amongst the four leading OECD countries for fibre to the premise penetration; and Singapore is not in the OECD, but has built a fibre to the premise network.

The starting point for Labor’s policy was to ask what infrastructure you need to empower the digital age. The starting point should not be identifying the cheapest interim step to get you through the next five years.

That has entirely been the position of Labor in Government, and it will continue to be the focus of Labor in opposition.

It is the members of Australia’s ICT profession that understand this issue better than most. So as the Coalition undertakes its review of the NBN, I encourage you to participate in the national discussion.

¹ Livingstone, Kevin *The Wired Nation Continent: The Communication Revolution and Federating Australia* Oxford University Press 1996. Pp10-11

² Australian Telecommunications Commission *Telecom’s First Ten Years 1975-1985* Available at <http://www.digecon.info/docs/0026.pdf>

³ Bell, Daniel. *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. Table 1 and associated text. Basic Books. New York 1973.

⁴ James Beniger *The Control Revolution: Technological and Economic Origins of the Information Society* Harvard University Press 1986 Table 1.1

⁵ US Department of Commerce *The National Information Infrastructure: Agenda for Action* 1993 Available at <http://www.ibiblio.org/nii/NII-Executive-Summary.html>

⁶ Information provided by Rod Tucker in an email on 10 October 2013.

⁷ Commonwealth of Australia *The Global Information Economy: The Way Ahead* July 1997

⁸ US Department of Commerce *The Emerging Digital Economy* 1997 Available at <http://govinfo.library.unt.edu/eccommerce/EDereprt.pdf>

⁹ First two reports available at http://www.archive.dbcde.gov.au/2013/september/national_digital_economy_strategy Third available at http://www.archive.dbcde.gov.au/2013/september/national_digital_economy_strategy/advancing_australia_as_a_digital_economy

¹⁰ *The Coalition’s Policy for E-Government and the Digital Economy*. August 2013 P.13.

¹¹ Peter Reith *Review of the 2010 Federal Election* May 2011 Available at <https://lpaweb-static.s3.amazonaws.com/ccd/Peter%20Reith%20Review%20of%20the%202010%20Federal%20Election.pdf>

¹² NBN Co Draft Corporate Plan 2013-16 28 June 2013 Available at http://www.afr.com/rw/2009-2014/AFR/2013/09/24/Photos/9c50d15c-24d1-11e3-b91f-a975a1b9812d_NBN%20Co%202013-16%20Corporate%20Plan%20Draft.pdf

¹³ Cisco VNI Resources <http://www.ciscovni.com/forecast-widget/wizard.html>

¹⁴ State of Telecom 2013. Columbia Institute for Tele-information. Program at <http://www8.gsb.columbia.edu/citi/sot2013> session videos at <http://www8.gsb.columbia.edu/citi/sot2013>

¹⁵ Australian Bureau of Statistics *8153.0 - Internet Activity, Australia, June 2013*
<http://www.abs.gov.au/ausstats/abs@.nsf/mf/8153.0/>

¹⁶ Malcolm Turnbull, Radio 4RO, Rockhampton 15 April 2009

¹⁷ Malcolm Turnbull, National Press Club, 3 August 2011

¹⁸ Tony Abbott, Coalition Policy Launch, 9 April 2013