

## **NEW ZEALAND'S FIBRE ASPIRATIONS**

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Its not often that in business, we Kiwis score a lead over Australia. One rare exception was in the nineties after you had come across the Tasman and in the space of a couple of years bought all of our banks, to which we responded in the very best of the ANZAC spirit by mounting a successful raid on your breweries.

But in telecommunications, I think we have got ourselves a little way ahead and have a useful story to tell. It's a story of the early stages of a journey, certainly nowhere a destination reached. But in my opinion it shows for the first time in history, telecommunications in New Zealand poised to achieve its true potential in supporting economic growth and more fulfilling lives for people in all spheres of society.

I'm going to talk about the very big vision our government has for the migration to fibre to the premises, and the even more audacious vision of the end point that our organization, TUANZ, has been promoting. I'll talk about the point the industry is now at, and possible ways forward.

#### **Why Fibre to the Premises?**

TUANZ for the past several years has promoted fibre to the premises as a national economic and social imperative. Our vision is for fibre connectivity to be available everywhere New Zealanders live, work and play – at every home, business, farm, marae, school, health centre, library, and community outpost. Our Board believes with passion that ubiquitous access to fibre will become a defining attribute in our country's economic and social development over the years ahead. Our membership has rallied very strongly around this call.

Fibre to the premises is not just another incremental step for an industry that is well attuned to change. It is a most fundamental, one-off change – inter-generational investment to change not just the character of telecommunications, but the underlying infrastructure of the nation to prepare us for decades ahead.

Why fibre, we are occasionally asked. What else, is the answer.

Copper has served incredibly well for a century. Despite the fact that it was designed for voice traffic engineers have done a great job extending its capability for these early years of broadband. But copper's time is over – VDSL2+ is arguably copper's last gasp.

Wireless has made amazing progress. Its great strength is in mobility, where it has transformed people's lives. Mobile is utterly indispensable to today's lifestyle. But it is a premium product which will always be constrained by bandwidth and spectrum limitations. Just as air freight and sea freight operate in adjacent but different markets – one servicing bulk traffic, the other offering speed and convenience at a substantial premium - so too do fixed line and wireless telecommunications. To function fully in the future, people will need both.

### **How Will Fibre be Used?**

Ultra fast connectivity will impact just about every element of the lives of New Zealanders, just as is already starting to do in the leading edge countries.

For smaller business it offers enormous scope to improve productivity. Large corporations have for years used ICT as the foundation of their business systems - Customer Relationship Management systems, Enterprise Resource Planning systems and the like have been ubiquitous across big businesses for a decade or two. But thousands upon thousands of the small businesses that really make New Zealand tick are still in the age of the pen, card index, and carbon. Plumbers, taxi drivers, contractors, small retailers, cafes and countless others have huge gains to make, especially as unlike the largest corporations, small businesses don't cluster in areas of high density population.

In New Zealand, when we talk of businesses we have to single out our farmers who, despite greater diversification of our economy, are still our single most important sector. Fibre to the Farm, coupled with the ingenuity that has always characterized our rural sector, offers vast opportunities for improvement of farm management. It will improve farm security, environmental management, veterinary services, fertilizer application, and a hundred other aspects of New Zealand farming. It will make rural lifestyle far more appealing by reducing the sense of isolation, giving rural people on line social networking opportunities, helping the issue of farm labour, enhancing rural health services, and keeping country schools viable.

As a general purpose technology ICT can change the places we choose to live. The physical clusters that we settle in so as to get the benefits of critical mass, otherwise known as cities, can be replaced by clusters of electronic connectivity where workgroups will operate freely and efficiently from opposite sides of the world, potentially reversing our relentless urbanisation. And within cities,

telecommuting can make a serious dent in peak traffic on roads and public transport while cutting commuting costs and helping reduce carbon emissions.

Health is a sector screaming out for the use of ultra fast broadband. A single medical record for every citizen, protected by appropriate levels of access with a "break the glass" process for use in dire emergency will be, quite literally, a life saver. On line storage of radiography is an obvious application to save us all keeping those cumbersome x-ray films behind the wardrobe, making crucial medical information instantly in the theatre, surgery or ambulance. Electronic communications among the diverse professions in the health service would improve safety, efficiency and patient outcomes.

A key constraint on take up of ICT in both health and education in New Zealand has been the decentralisation of decision making in both sectors over recent times. The political rationale for this is that decision-making is devolved as close to the end user as possible, But the downside is that when a ground-breaking opportunity comes along that requires a coordinated decision, such as communications technology, nobody has the power to make it. This is something New Zealand desperately needs to address – lives are being lost needlessly while our health services fail to grasp the opportunity and the sub sets of the wider sector continued to operate in their professional fiefdoms.

There are countless more examples I could give of ways this technology will impact positively on economic and social well being. But if there is one overwhelming imperative for the early roll out of fibre, it has to do with our young people. Broadband-enhanced telecommunications is the defining technology of their age. By the time today's 12 year olds hit the workforce their expectations of technology, based on what they discover on the Internet and see in other countries on television, will be vastly beyond what we see today. They'll expect as of right, multi-channel television delivered over fibre so they can watch it on demand. They'll expect split screen capability so they can monitor two or more programmes simultaneously. Their boundary between education, work and entertainment will be nowhere near as clear cut as today - they'll want to work when they are at home, and be entertained when they are at work. And if our country and yours don't provide them the basic infrastructure to deliver this, they'll be influenced to move to another country that does.

### **Government Policy on Fibre**

Its against a background of strong community awareness of all this that the call for nationwide fibre, started by TUANZ and others several years ago, has become widely supported across the community. Only a year ago TUANZ published our manifesto for the 2008 General Election – "Towards Leading Edge Connectivity." Soon after, in what history will show to be a defining moment in

New Zealand's communications history, the National Party made its very first policy announcement for the election, in the form of a government contribution of \$1.5 billion to drive the roll-out of a "fibre to the home" ultra-fast broadband network. Its initial goal is to ensure the accelerated roll out of fibre to 75% of homes, beginning with business premises, schools, and health facilities.

With that announcement last April National took the political high ground in communications. It did so much to the annoyance of Labour, the party that with considerable justification had claimed telecommunications as an outstanding success story of its nine years in office.

Since the announcement a year ago the public support has been as close to unanimity as you'll ever get. In my view, that reflects that National read the preferences and concerns of the electorate with great skill. Business people, parents, teachers, and people right across the sphere realize the importance this technology will assume in the future and are just as firmly behind the nation's investment as their forebears were about roads, rail, and reticulated electricity.

### **Who Will Build It?**

So the promise has been made, public response has been highly positive. The new government has been elected, and it's had 4 months of honeymoon. What progress has been made.

In public, very little. But behind the scenes there's a huge amount going on. There is absolutely no doubt they are working on the detail and giving it top priority. The recession will not make a jot of difference – in fact it makes the case even more compelling.

But there are some extremely important decisions to be made, and New Zealand cannot afford to get these wrong.

The \$1.5 billion question is who will build. Will the government partner with one or more traditional telcos, with one or more electricity lines companies, with local government, with someone from left field, or a mix of all the above? And will it maximize private investment opportunities by partnering with a multiplicity of interests, or try to consolidate with a small number?

TUANZ takes the view that the structure should allow the emergence of a broad range of investors responding to a wide range of regional capabilities and budgets. We have urged the government to promulgate what we are calling a National Digital Architecture – an umbrella document pulling together the design principles, physical configuration, functional organization, operational

procedures, and data formats of a national fibre network, leaving a diverse range of independent investors to create infrastructure within this common set of rules.

While National and Labour share a vision around the importance of the next generation of connectivity, their views on likely partners appear to differ significantly. Measures taken by Labour over recent years to stimulate build have generally taken the form of subsidies for local government to conduct feasibility studies or start building, often in partnership with telcos. National however, appears considerably less wedded to local government as an investor or implementation partner in this space. My sense is that while councils will not be closed right out, this government will engage the private sector to take the lead.

But who will be entrusted as the government's partner or partners – traditional telcos, or electricity lines companies? That's a huge question and over recent months we've seen two relevant key reports.

The first by Network Strategies, commissioned by InternetNZ, investigated the investment required under differing scenarios to introduce broadband with at least 100Mbit/s for domestic users and 1Gbit/s for commercial users for 75% of the population within 10 years. It applied six principles - fair competition, affordability, timeliness, high-speeds, independence, and avoiding of excessive duplication. Business models considered included lit Fibre-to-the-Premises, Open Access Ducting, dark Fibre, utility expansion, and extension of Telecom's cabinetisation rollout using VDSL. Predictably, the research found that public sector participation would be important as the modeling showed that the levels of required investment are beyond that of a commercial operator's typical payback expectations.

The researchers treated the level of government investment in a Public Private Partnership arrangement – the government's \$1.5 billion - as a grant and assumed that the payback period of the private investor's contribution to the network should be fifteen years or better. They noted that the costs of trenching and ducting were of huge significance to the business case and that any network that could avoid these costs, such as utility companies, would realise significant cost savings. They assumed that if the partner was a utility with existing ducts and poles, these would be used to deploy fibre for 50% of the network.

Based on all those assumptions, Network Strategies concluded that the utility expansion model involving partners who already own poles and ducts such as electricity lines companies, would offer a substantially cheaper outcome than a green fields initiative by telcos. This conclusion did not necessarily fill the telecommunications companies with delight.

The government has taken seriously the possible involvement of utility owners as major players in the fibre network. The Communications Minister, Hon Steven Joyce, as recently as last week noted that the migration to fibre was providing the opportunity for these players to have an integral role in the development of next generation networks. A significant number of electric lines companies in New Zealand have expressed interest in embracing a role in building telecommunications infrastructure, and a few are already well established in this space. So there is a very real possibility that the next generation of large scale investors in New Zealand telecommunications will include electric lines businesses.

The second recent report was produced by economics consultants Castalia, on behalf of Telecom NZ, TelstraClear, and Vodafone. Unlike the Network Strategies report which was conducted transparently, the commissioning of the Castalia report was not made public, and the report itself was peddled selectively around government for several weeks before it found its way into the public arena late last month – a flashback to lobbying at its worst in the bad old days.

Castalia purported to be about supporting the government in its fibre objectives. However, what it said in essence was that the existing telcos are already providing connectivity sufficient to meet the government's aspirations or have investments planned to do so, most broadband users are not prepared to pay more than they do now, and customer premises equipment and wiring are serious constraints. Tellingly, Castalia went on to conclude that the cost of widespread fibre to the home would exceed the benefits.

A key assertion in the telcos' Castalia Report was that "*most existing and emerging applications would not require the speed and consistency made possible by fibre to the premises.*" However, the report's author conceded in a radio interview that in reaching that conclusion Castalia had looked at a time horizon of just 5-10 years. Herein lies the crucial point of difference. The government, the groups promoting fibre to the home, and arguably the public are looking at a long term vision for a generation or two ahead. But the telcos appear to be focused on the short to medium term. 5-10 years is the time such a network takes to build; based on their analysis it would already be obsolete by that time.

TUANZ was less than laudatory in our reception of the Castalia report. We described it as "*a backward-looking, negative, self serving Report that reflects no understanding how communications technology can transform New Zealand's future. It hoses down the sense of opportunity. It contains nothing new.*"

That view was shared by the media generally with few exceptions.

So if the underlying purpose of Telecom, TelstraClear and Vodafone – three unlikely bedfellows – was to position themselves as the natural participants in a public private partnership for fibre I suspect they may regret the tactic.

But the sideshow of the Castalia Report should not cloud the real question – which are better suited to partner with the Government for a massive fibre roll out – lines companies or telcos? Telcos bring their natural established ownership of the industry, their propensity for vertical integration that leverages infrastructure dominance to create service dominance, a relatively short term view of return on investment, and established telecommunications expertise. Lines companies bring expertise in stringing out or burying cables, a long term view on ROI, existing networks of holes and poles, and no history of invasion into downstream sectors. Its no wonder that the government is looking in both directions.

## **Telecom**

That however, does not mean the claims of the established telcos should be dismissed. Telecom in particular has a strong record as the natural leader in fixed line telecommunications, and for it to be completely excluded from a partnership of such substance would be extraordinary. Further, Telecom is a very different company indeed from the Telecom of 2006 and before. Following the revolutionary strengthening of the Telecommunications Act that year, including operational separation and local loop unbundling, there have been fundamental changes in the company's governance and management which have reconstructed the company from the ground up.

Telecom these days, under the leadership of Dr Paul Reynolds, is transformed. It exhibits a healthy balance in its attention to a diversity of stakeholders – shareholders, customers, staff and community. Its messages demonstrate an underlying integrity rather than the old days of spin. Its investment performance is recognizing New Zealand as its primary market. Its managers are open and transparent in their dealings. It has embraced Operational Separation with the utmost integrity and without missing a beat. Its competitors acknowledge that Telecom Wholesale and Chorus are reliable and trustworthy business partners. Paul Reynolds' stamp has had everything to do with that.

Telecom is not out of the woods. There remains a residue of adverse public opinion dating back to the old days. Like any telco it still suffers service deficiencies too often. And sadly, issues dating back to the old days are still working their way through the court system and reminding Kiwi customers of bad events long gone. But Telecom's bad behaviours of old are behind it and should not count against its being taken seriously as a potential cornerstone of a fibre partnership, if it makes sense on economic grounds.

So these next few weeks in New Zealand telecommunications are going to be of exceptional interest. Who will the government anoint as its partners in the fibre future – lines companies, telcos, local councils, or someone else? Will it contract with just one or two investors and let them deal with multiple regional interests, or embark on a wide ranging process with a rich tapestry of diverse investors. What role if any will local government play? What will be the timetable and milestones?

### **Other Issues in NZ**

- Mobile
- LLU and wholesale markets
- Copyright

### **Conclusion - Back to the future**

But compared to fibre, these other issues are storms in the nation's tea cups. New Zealand is on the right trajectory to future proof our communications. There will be a lot more to be done over the next decade – improving our international connectivity is an obvious task - but the right building blocks and perspectives are in place.

The most fundamental attribute of modern electronic communications is to reduce the burden of isolation. Like you, we are a relatively isolated, lightly populated country. Unlike you, we are also tiny. It is these characteristics of isolation and scale that make implementing a 21<sup>st</sup> century fibre network very challenging. But what we should never forget is that those same characteristics also multiply the benefits by an order of magnitude.

In summary, New Zealand has some very useful ducks in a row. There is a strong cross-party political belief in the merits of fibre. Our incumbent telco is acting as a good corporate citizen, working with the government and community instead of outside. We are a nation of natural problem solvers who given the right incentives can find innovative ways to do things. And perversely, the world recession is increasing the resolve to develop infrastructure rather than reducing it – just as New Zealand's healthy forestry industry originated from the unemployed of the nineteen thirties planting pine trees, so might a fibre network be a timely way to soak up some surplus labour.

We're still at the beginning, but its looking good. I look forward to updating you in a year or two, Thanks for the invitation to be here.

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