

2003 10 DAB Consultation

Consultation Response Paper

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In response to the “*Consultation Paper “Demand Aggregation (DA) Broker Program”*” by the National Office for the Information Economy about September 2003. It was written to highlight the concerns that the Consultation Paper raised and the intention is that through my career experience, professional expertise and wisdom in this broad area, the observations raised in this Response Paper can be aired and applied to avoid creating and repeating decisions that ultimately are not financially good for our Australian economy.

Background

What is really being approached here is ‘economy of scale’. By identifying as much existing and projected Broadband Internet, CATV, and associated data and telephony communications usage in all non-major urban areas, an appreciation of the total future network requirements can be then estimated. This in telecommunications terms is called Forward Network Planning, and those who are expert in this area are Professional Engineers experienced in telecommunications networks planning and implementation.

It is not a new role, but the name *Demand Aggregation (DA) Broker* incorrectly makes out that this person has the same skill sets as a *Forward Network Planning Engineer*. These Professional Engineers already have the expertise, experience and knowledge to do this role. One of the roles / activities of a *Professional Engineer* is to interpret and translate the requirements of their clients (in this case the public and all forms of business) and formulate a specification that will provide an ongoing solution. Such a role is entirely out of the range of Brokers, whose roles are focussed around product ‘packaging’ so that sales will follow.

The tools that *Professional Engineers* use to perform their roles include *consultation meetings* with the broad community and all types of businesses to identify and understand the existing and future business requirements, *applied mathematics* to interpret the requirements into existing network plans and projected network utilisation plans, *computer modelling* to translate these requirements into cost-effective telecommunication network structures, *project specification* to specify the augmentation of existing telecommunication network structures and manage the end of life of older technologies, *tender production* to translate these telecommunication technology requirements into sound and realistic business proposals, *bid management* to identify the most suitable equipment supplier / installer / manager to carry out each phase of the programme, *project management* to keep the project on time and under budget, and *management reporting* to keep upper management continually aware of the progress in all phases so that there are no ‘surprises’.

To do these roles effectively, Professional Engineers may occasionally briefly consult with an *Accountant* and *Lawyer* to assist them in some minor parts of some *Business Case* creation and *Tender* creation stages respectively.

It must be obvious from the *Demand Aggregation Broker Consultation Paper* that the Australian Government has realised that through competition, the now competitive mode of telecommunications has discarded its industry-wide forward network planning functions in favour of marketing, advertising and multiple company management, and consequently all the non-major urban (read: ‘lower return’) areas of all Australia’s telecommunications infrastructure have been seriously compromised, and formed a geographic digital divide.

The term ***Demand Aggregation Brokers*** tells me that those involved in establishing this role do not understand or appreciate the roles of ***Professional Engineers***.

Clarifying the Definitions

According to the **Macquarie Concise Dictionary – Reference 1** (the standard accepted reference dictionary in Australia), the term **Broker** means “1. an agent who buys and sells for a principal or a commission basis without having title to the property. 2. a middleman or agent.” Also in that same dictionary the term **Engineer** means “1. someone versed in the design construction, and the use of engines or machines or in any of the various branches of engineering: *a mechanical engineer, an electrical engineer*. 2. someone who manages a ship's engines. 3. a member of the armed forces specially trained in engineering work. 4. a skilful manager. 5. to plan construct or manage as an engineer. 6. to arrange, manage, or carry through by skilful or artful contrivance.” As a flow on, the term **engineering** means “1. the art or science of making practical application of the knowledge of pure sciences such as physics, chemistry, biology, etc. 2. the action work or profession of an engineer. 3. skilful or artful contrivance; manoeuvring.”

Looking at what the proposed activities that a ***Demand Aggregation Broker*** makes ‘interesting reading’, now that we know that the roles specified actually align with that of a specialist role, tailor made for Professional Engineers that have expertise in telecommunications equipment, network protocols, human management skills, and network planning skills. Brokers have skills in packaging sales of products.

Demand Aggregation Brokers?

These activities are in the general bounds of working with potential buyers of broadband services to bring the interests of buyers and suppliers together.

According to the ***DAB Program Consultation Paper***, the activities that DAB would be doing include the following: *developing strategies to aggregate demand in a region or community, identifying broadband demand patterns and opportunities to take advantage of existing networks and demand for greater regional benefit, advising stakeholders on how to structure business proposals for investment in broadband, identifying opportunities to coordinate investment in broadband technologies and services within a sector or region, advising governments about the merits of broadband infrastructure proposals, building a greater understanding of broadband opportunities and risks in regional communities.*

In reality ***Brokers inherently do not have the professional telecommunications network engineering know-how*** to aggregate various communications systems other than a superficial knowledge – and this is usually misleading because they generally are not aware of the intricacies involved in and consequently their estimations are usually very optimistic (very under estimated), and this usually leads to major customer relations problems in the future.

Brokers, because of their superficial engineering knowledge, are far more likely to misinterpret demand patterns as they are usually focussed on the sales commission side, rather than the bigger picture forward plan side. This leads to regions being supplied with pockets of broadband infrastructure that has less than appropriate network infrastructure and consequently the later engineering will be significantly more expensive than if engineered in a coordinated fashion.

Most Brokers are focussed on immediate sales, and not longer term network structures, hence their advice to stakeholders on broadband business investments can easily miss the much bigger benefits of sound, well structured longer-term network engineering plans.

Although Brokers may have the slick tongues to advise governments about the merits of broadband infrastructure proposals, it is the network planning and development engineers that actually structure the network growth plans and prioritise the network infrastructure projects, before any such advice needs or can be provided with sound engineering reasoning to any government for funding approval. With this in mind, Brokers have no place to advise anyone on a well engineered broadband network plan, proposal, or its implementation. This is the role of telecommunications planning and development engineers.

The fact that Governments now need to be involved about the merits of Broadband infrastructure proposals, spells out that these same Governments are not so embracing of business competitive practices and only now are becoming aware of the enormous blowouts in overall operating costs, the huge amount of customer confusion and the multi duplication of telecommunication networks that comes along as baggage with competitive practices, and/or the use of Brokers to 'sell' ill conceived and small thinking networks.

It has been demonstrated for several years that if a technology infrastructure is there then the Australian people will utilise it. Classical examples are Mobile Phones, Internet, DVDs, and television. Hence there is no reason to have anyone or organisation spending valuable resources on advertising or other information dissemination practices to build a greater understanding of broadband opportunities and risks in regional communities. These valuable funds need to be focussed directly at installing and commissioning the infrastructure.

If there are any doubts that this role is not tailored for Professional Telecommunications Network Planning Engineers, then read again under "Background" in this document. It should be painfully obvious that activities in the above *italicised paragraph* do not relate to Consultants, Lawyers or Accountants, Account Managers or Business Managers. They relate directly to **Professional Engineers**.

Some Specific Activities of Professional Engineers

Looking more closely at what is marked down for DA Brokers, the specific activities of Professional Engineers include these functions:

- *meeting with local government and community stakeholders to provide advice about methods of demand aggregation, common pitfalls and likely solutions*
- *conducting surveys of particular sectors or geographic areas to determine levels of potential demand and to identify priority areas for demand aggregation*
- *gathering information about current broadband infrastructure and pricing to inform the development of business proposals by buyers*
- *assisting regional stakeholders to develop proposals for government or private sector funding, including developing comprehensive business plans that identifying realistic options for supply, local technical support and project sustainability*
- *facilitating discussions between stakeholders within a sector or region to align their interests and develop proposals that will benefit all participants.*

Any competent Telecommunication Network Planning Engineer would naturally work in consultation with the stakeholders, and provide sound engineering advice. Most surveys are done with electronic monitoring equipment on the existing network, and through government and industry records to determine the projected growth. Engineers then analyse these projected growth patterns, and through that, set the priority of what type of network

infrastructure is required where and develop the Business Cases, project plans, tenders, bid resolutions and manage the installation, commissioning and life cycle management (including scheduled maintenance) of the telecommunications infrastructure.

Brokers may be required to assist Engineers in setting the product pricing. Business Plans need to be simple. If they are not simple, then excessive time and resources will be wasted in trying to justify what should be open and shut cases. In this case the “Broker” is more closely aligned to the work that a Product Manager performs.

Brokers may be required to facilitate discussions with various stakeholders, but Engineers need to be across these discussions to provide sound engineering advice. In this case the “Broker” is more closely aligned to the work that an Account (Sales) Manager performs. A company Sales Account Manager, with the able assistance of Product Engineers and Bid Managers and their support staff is naturally very biased in what products will be supplied.

As a Broker having several products from several companies, (and many more ‘vapourware’ products) the problem is to sell these to people / businesses that may not have an existing and / or highly expandable broadband network. This is a critical situation where professional telecommunications engineers must be in the front lines to minimise the confusion.

The serious conflict of interests here is that existing equipment sets the future installation trend and as Brokers in general have only a superficial knowledge of the total engineering problem and their pay is related to which brand of equipment is installed and which product. In this situation a Broker should be the last choice for an unbiased view of what products and equipment is to be purchased and installed.

The problem here is that this person cannot do his role effectively and professionally if there is no overall Network plan for him to work on, and that network plan must be the aggregation of the total telecommunications network infrastructure, including all ‘competing’ telecommunications carriers, the major government and business needs requirements and services in place and the long term expected growth patterns for all areas.

To compound the resource wastage proposed by the Consultation Paper, instead of producing a comprehensive Business Case for each network augmentation, the Telecommunications Network Planning Engineer would have put together a short (one page) Business Case and the Forward Telecommunications Network Planning Group would have this vetted within a few days. As such, there would be no need for government based committees to ponder over hundreds of competing submissions as competent Network Planning Engineers would have anticipated the network infrastructure growth and positioned this growth in an orderly and very highly cost-effective manner.

Core Elements of the Program

In Project Management language, the management of several Projects is called Program Management, and seasoned Project Managers are ideal for these roles. Brokers specialise in selling securities and financial derivative packages. This is not another branch of Enron. Brokers do not have the engineering knowledge and know-how to aggregate networks, but they can structure pricing plans under direct guidance from Professional Engineers.

The cause of the problem is that through introducing so called ‘competition’, it has also removed the well oiled professional coordination and the result is a large amount of confusion at all levels, hence the need for extraneous (Government) committees to try to oversee what is planned by highly competent and effective Network Planning Professional Engineers.

The key problem here is that there are now several telecommunications networks that are owned and managed by separate telecommunication carriers. Each of these carriers own a well specified network that is their Intellectual Property (IP) and Company Assets, and releasing any information about any part of these networks to anyone outside their company has to be in the strictest confidence. As such, it is usual to strike up and sign off on a **Memorandum of Understanding** (MOU) between the carrier and any client at any level before any of this highly confidential information is even discussed.

With this key problem now aired, it must be understood that at the national level, all networks of all carriers need to be placed on a common register / database, and be updated daily, so that Network Planning Engineers can be effective in doing their role in focussing on multi-jurisdictional initiatives – whatever they be. No carrier is going to make this information available, unless they have a clear competitive advantage, and they know this before they pass out any of this IP.

There are two ways that I can directly see to do this:

- The first is to use the first brute force method and pass a law that all carriers must provide this information to this central body in a form as specified on a daily basis. Although this sounds simple, there are more than 1000 Internet Service Providers (ISPs), several tens of carriers and a plethora of Government Departments.
- The second more elegant method is to pass a law to move the network owned and managed by Telstra out of the competitive market and place this in the hands of a non-competitive Authority or Commission. This Commission would then engineer and manage the wholesale network (Inter Exchange Network (IEN), Internet Protocol Network (IPN), and Customer Access Network (CAN).

Personally I strongly favour this second method as this then puts several competing sales and marketing telecommunications companies and government departments (not carriers) on a level playing field, where they are purchasing the same wholesale products from the nationally based Commission, and selling these products and services at retail rates to their clients – be they the general public, government departments, or big business.

This second approach automatically places the national network under on non-competitive roof so that the elements of network aggregation can be effectively put into practice with a minimum of overheads. All efforts are then focussed in common efficiency goals of driving down the network operating costs through national regional and local economies of scale.

With the national aggregation of the telecommunications network into a single Commission, supplying the network services at wholesale level to competing retail suppliers, be they servicing government departments, big business or the general public, the role of network aggregation at the retail level would be greatly simplified – to such an extent that it would be highly practical, and network duplication would be eliminated almost immediately.

The three core elements at national, state/territory and community based levels would then be very easily addressed, as Professional Engineers in the retail sales / marketing retail supplier groups would then be able to interpret the needs and requirements of the retail clients and Account Managers there, and translate these to wholesale deliverables that the Commission would be planning and providing at a wholesale level.

This proposal is outlined in Reference 2.

Key Beneficiaries of the Program

Currently to my knowledge there is no effective Broadband infrastructure in any areas outside the most built-up (CBD/metropolitan) areas in Australia. To make matters worse, there is no effective long-term Broadband access network solution. This is detailed in Reference 2.

There is no point in focussing on any non-CBD/metropolitan Broadband organisation or participants until an effective access network solution is installed and commissioned (put into practice).

(In short from Reference 2:

The copper pairs in customer access lines can carry ADSL only 3.5 km from a Digital Service Line Access Multiplexer (DSLAM), and only about 72% of those lines are suitable for ADSL. 10% of all lines exceed 3.5 km, and they are rural/remote. I also believe that the copper access network is approaching a very high maintenance schedule – so I believe that copper access network has to be completely replaced in the near future.

Community Access TeleVision (CATV) is only effective in some metropolitan areas. Mobile Radio (including GSM, CDMA and G3) is not Broadband Internet, the transmission distance is very limited and Satellite is not a practical or economic solution. (Correction 2005 – Wideband CDMA / G3 is now considered Broadband Internet – but considerable Inter-Exchange (Backbone) Network is essential to connect these services.)

Optical Fibre is very capable of Broadband and has a distance limit of about 70 km, and it is the obvious choice for the access network to the house in the immediate future.)

Program Principles

The principles that the DA Broker program intends to apply, align perfectly with the second option under my response with the **Core Elements** above.

This option is to move the Australian people owned Telstra network into a Commission and make Telstra a “wholesale – retail” service supplier, along with Optus-Singtel and other carriers. Telstra, Optus and other once network suppliers would stay on the share market, but they would focus on retailing the services from the common wholesale telecommunication services source - the Australian people owned National Telecommunications Commission.

Implementation Timing and Process

Without a suitable non-urban and regional / remote infrastructure in place providing Broadband to virtually all homes in Australia – irrespective of location, this DAB program is seriously flawed. This lack of suitable Broadband infrastructure is the single factor that is the fatal sticking point, and it is imperative that it be addressed, resolved and implemented as the absolute highest priority.

Governance Arrangements

This group will become part of the National Telecommunications Commission.

Attachment A

Refer to “**Background**” above, as this says it all in much less.

Conclusion

It is obvious that the intention of the DAB program is minimise duplication that has been caused by the competitive environment that has not delivered on its words. This DAB Broker Program Consultation Paper clearly demonstrates that the NOIE is now acutely aware that competitive practices have minimised Broadband development on all but the most-high return areas, and this has seriously devalued non CBD/metropolitan areas, and stranded them from the CBD/metropolitan mainstream Broadband infrastructure and access facilities.

It is also obvious that the writers of the Demand Aggregation (DA) Broker Program Consultation Paper have very little understanding of what Professional Engineers really do, and how they go about their work. It is hoped that this paper answers what Professional Engineers do and just how capable they really are.

Brokers have their place, but this DAB Broker Program Consultation Paper incorrectly places Brokers in a telecommunications Network Planning Professional Engineers role and not that of assisting the structuring of the pricing of (telecommunications) products. This paper needs to be rewritten to remove the term Brokers and replace it with the term with “Professional Engineers”, as in the role that telecommunications network planning Professional Engineers are expert in and position. The majority role of Brokers is to occasionally assist Professional Engineers in structuring the product pricings, which is the expertise of Brokers.

The attempt to aggregate Broadband applications is seriously flawed in that there is effectively no Broadband access network or Broadband infrastructure in rural and regional areas, (that is: any residence beyond 3.5 km of a local telephone exchange with suitable network Broadband and ADSL infrastructure, and CATV passing that same residence) and this new (optical fibre) access infrastructure has to be in place before any true aggregation can be effective in non CBD/metropolitan situations.

References

- 1 **The Macquarie Concise Dictionary**, Third Edition, 1998, ISBN 0 949757 95 0
- 2 Malcolm Moore, **Submission to the Broadband Inquiry**, (Environment, Communications, Information Technology and the Arts References Committee), September 2003