



## **Proeye Communications & Security Systems**

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Select Committee on the National Broadband Network

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**Submission to the**  
**Select Committee on the National Broadband Network**  
**by Paul Di Berardino**  
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Proeye Communications & Security systems is an installer and adviser of communications equipment and technologies, with over 16 years experience in the field of satellite and TV reception technologies, security electronics, telecommunications infrastructure, with a focus on research into developing technologies.

With a diversified customer base, below lists some of the areas which may be of interest to the review panel, which has also influenced our response to the submission. 90% of our satellite and TV viewer client base is over the age of 60 years, with little or poor English speaking skills, whom watch overseas non English speaking programs.

Many of our business customers are small enterprises, employing between 1 and 10 employees, that are not internet savvy and are cautious to migrating to new digital IP-based technologies

Our experience regarding poor broadband performance stems from poor installations either on the customer cabling or the providers network, poor customer service, uncontrolled contention ratios or backhaul inadequate and lack of technical expertise to rectify matters accordingly.

Some observations across Melbourne metropolitan estates serviced by fibre to the premise are placing bans on TV and satellite antenna installations, because the digital TV signals are reticulated by using RF over fiber technologies, with complete disregard to niche satellite content.

We continue to provide education and consultancy to our customers about the new digital environment, and help them explore the endless opportunities digital IP-based services applications and technologies are enabling.

We also felt that by responding to this submission enables the opportunity to provide suggestions from a different point of view subject to the current environment and what we have learned. Please see below our response to the principles.

### **1. Broader structural models**



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NBN Co should consider more broader structural models, to allow for cost effective solutions to enable efficient and effective delivery of broadband. However FTTP should be considered as the primary objective and NBN Co should engage with other Government bodies to achieve that objective, where such obstacles exist that hinder fiber FTTP deployment. For example Fiber the Building (FTTB) provides an ideal solution to economically deploy superfast broadband to the DSLAM in building where multi-dwellings or premises exist.

Other technologies such as broadband over power line should not be considered due to the high risk of interference that may be produced from electrical/electronic devices.

NBN Co currently supplies three defined solutions to cater for fibre, wireless, and satellite. NBN Co Fibre access service, Wireless access service, and satellite access service model. There are concerns about the one size fits all network termination device (NTD) and un-interruptible power supply (UPS) solutions for the entire rollout of NBN Co's FTTP build. NBN Co is only providing the current NTD and UPS solution for its part of the NBN build, which may be placing limitations and barriers to facilitate over the top services offered by retail service providers (RSPs). According to the ASIAL report, the security industry raised real concerns with the original UPS performance which provided up to five hours of reserve power to the two phone ports, which was not a fit for purpose solution during a mains power failure.

Further developments in alarm monitoring technologies utilise IP- based monitoring of security systems which there is no battery backup service currently provisioned by the current NTD. Therefore wireless redundancy paths are absolutely essential. Recent NTD developments allow provisioning to supply backup power to the data ports as well.

The Honorable Turnbull, advocated the NBN Build to be technology agnostic, therefore technology developments allowing different variations of the NTD developed by industry should be supported to enable a greater range of services and products. NBN Co should continue to supply a standard NTD and allow industry to develop and supply its own NTD to offer specific or more broader products and services, on the basis that the device meets NBN Co's or the regulators minimum performance specifications. Some examples of industry developed NTD's may include the following specifications:

- Increased backup power, or redundancy IP paths by utilising the mobile networks, or specialised NTD's for metering infrastructure.
- Support for multi tenancy dwellings where fibre to the building is only provided.
- Optional RF Port to support IP based RF over Glass Technologies.

### 2. Working specifications

The committee should consider the following specifications



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- Provide a define a minimum upload rate in addition to the minimum specified download rate ensure the delivery of voice services can be carried by either using the designated Voice Ports at the NTD or one of the available data ports.
- The panel to specify minimum latency requirements
- Accessibility requirements
- NBN Co to own all pits and ducts, therefore allowing the possibility of achieving a competitive framework in a layer 1 Fibre deployment.
- Regulation should be no burden or intrusive, however in some developments competing FTTH providers have a complete monopoly over the network and customer cabling, which requires legislative changes in the public interest.
- Schedule 3 of the Telecommunications Act 1997 (the Act), requires further legislative changes, and more engagement from the Australian Communications and Media Authority (the ACMA), so that the NBN build contributes positively in every way possible.
- Competing FTTB providers may harm the NBN Co model if it is allowed to continue to provide fibre to the building to profitable only customers such as Multi Dwelling Developments.

### **3. Structural separation**

NBN Co should continue to be subject to wholesale-only open access requirements. Where certain services are hindered or required, but cannot be provided economically or commercially, then NBN Co should be able to provide such services until either the services can be provided economically or commercially.



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### **4. Regulatory jurisdiction**

NBN Co and competing providers should be all subject to the same regulations across the board. However allowances or exclusions from certain legislation should be provided on a case by case basis following public discussion.

The ACMA should adopt and enforce labelling and technical equipment standards for network equipment to ensure provisioning, installation and safety of network equipment is maintained.

The Cabling Provider Rules (CPRs) require cabling providers undertaking customer cabling to obtain the necessary competencies are registration, however there are no specific technical competency requirements to obtain a carrier license or use a person to provide telecommunications network cabling. Shortfalls arising out of such matters increases the likelihood and risk of carriers causing environmental damage, financial loss, failure of services. The panel considering implementing specific regulations and conferring additional powers to the Regulator to deal with such matters.

### **5. Competitive neutrality**

Competitive neutrality between NBN Co and other market participants are generally managed by the ACCC. The legislative arrangements should be maintained to ensure such matters contribute positively to our economy.

### **6. NBN Carrier Requirements**

The ACMA and ACCC should continue to develop legislative frameworks to ensure consumers are not disadvantaged.

Minimum technical performance specifications are required, and should be developed and adopted by the Regulator to ensure adequate service delivery for voice and broadband is enabled.

Some competing providers were not able to adequately facilitate adequate broadband or voice services, which caused subscribers to complain about their service, or lack of. Chat forums such as whirlpool were used by disgruntled subscribers to highlight their concerns, however it is necessary for the regulator to ensure appropriate regulatory tools are in place to remedy such matters.

### **7. Overbuild**

NBN Co should not overbuild a network alongside a competing provider.

In the event where a competing provider does not provide an adequate service, regulatory intervention should be applied to enable the provider to provide adequate services, as a last resort NBN Co should overbuild.



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### **8. Essential characteristics**

The applicable regulatory bodies develop and maintain regulatory frameworks to ensure that certain technical regulation and customer service guarantees are adopted. The following response to examples suggested above are:

- ability to support certain minimum broadband speeds;
- provision of wholesale services on an open access basis (possibly involving structural separation or some equivalent method of ensuring non-discrimination) and support for retail level competition;
- No obligation on a provider to service all customers, but additional funding's sourced by the Government to enable competing providers to provide to underserved areas.
- Minimum performance characteristics – for example in terms of latency, jitter, loss, contention ratio, and Quality of Service and end to end management of essential services that may be defined such as voice or legacy devices.
- price structures and levels that provide affordable access;
- credible, transparent and predictable upgrade paths to higher speeds;
- clear and reasonable timeframes for connection and service restoration.



## 9. ACCC

The ACCC is in a better position to deal competition matters.

The ACCC can apply specialist and broader competitive objectives to the telecommunications environment that are in the public interest.

Other regulatory bodies may not have the resources or specialist skills to implement, develop and maintain legislation regarding competition matters. To provide additional resources to another regulator such as the ACMA or TUSMA to deal with competition matters in place of the ACCC may be construed as inefficient allocation of tax payer funds.

The ACCC is further removed from any influences from the Telecommunications industry and the Department of Communications, that may cloud or influence its competition regulatory objectives.

## DSL

DSL technologies can cause interference to radiocommunications spectrum users, in particular HF and VHF communications. DSL technologies utilises a number of carrier frequencies that can potentially interfere with such services, rendering usage of particular segments in the radiocommunications spectrum useless in the vicinity of DSL services, in particular where FTTN will be deployed.

For example G.Fast technology data is modulated by using discrete multi-tone (DMT) modulation, as in VDSL2 and all standardized ADSL variants. The G.fast standard allows 106 MHz and 212 MHz profiles.<sup>1</sup>

VDSL2 uses up to 8.5, 17.664, or 30 MHz of spectrum. The spectrum overlaps with the FM broadcast band between 87.5 and 108 MHz, as well as various military and government radio services.

To limit interference to some radiocommunications services, the ITU-T G.9700 recommendation, also called G.fast-psd, specifies methods to shape the power spectral density of the transmit signal; G.9701, codenamed G.fast-phy, is the G.fast physical layer specification. However limiting spectrum to avoid interference to some radiocommunications does not protect other radiocommunications services. Furthermore it also limits that capacity of the DSL technology to deliver services at higher speeds.

Therefore DSL technologies are limited by the fact that they can only transmit data on designated frequency bands, to avoid interference to radiocommunications, which limits the potential maximum delivery rates that can be provided by the technology.

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<sup>1</sup> <http://en.wikipedia.org/wiki/G.fast>





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I put to the senate committee to question the validity of FTTN and DSL technologies and the impact it has on our finite radiocommunications spectrum resource. In particular, when compared too Fiber delivery systems which has a nil impact radio spectrum.

Caution should be applied in providing ubiquitous FTTN service to cut cost. Fiber communications does not impinge on general wireless radiocommucations spectrum.

**End.**