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The Manager, Convergence Review
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Dear Sir

Nortel Networks Australia is pleased to make the following submission in response to your Issues Paper. This submission may be made public except for the attachment that we request is treated as commercial-in-confidence.

Nortel Networks is a global player in the converging IT&T industry. Convergence is effecting all markets. Australia needs to follow international trends, take a path that is compatible with major international markets and learn for the mistakes and successes of other countries and regions. Nortel Networks is willing to share more of its vision than contained in this submission with you, if this would be helpful.

Nortel Networks is a very successful IT&T corporation because it focuses on areas of emerging opportunities and embraces discontinuities in markets and technologies. We have a tradition of anticipating where technology and market directions are going and focussing our energies on leading industry change. With digital, wireless, and fibre optic systems, we rose to the challenge and in the process, changed the very nature of modern communications. Technology evolution and revolution drive Nortel Networks. At the heart of this has been huge convergence in the types of products that we sell and in the customers to whom we sell our products. Convergence has been a key influence in the changes that Nortel Networks has made in continuing to be a lead supplier of communications products and services.

One of the major goals of Nortel Networks over the past two years has been to make our corporation a recognised global leader in the convergence of telephony and data. Our vision and strategy is known as Unified Networks. Unified Networks is directed to creating greater value for customers worldwide by delivering integrated network solutions spanning data and telephony. The first step of this vision was in 1998 when Nortel Networks

acquired Bay Networks. This was the first major move seen in our industry with the telecommunications side merging with the IT side. Since then, other players have taken similar steps. All leading communications networking vendors are seeking the same common ground. Internet companies have moved into the telephony space and telecommunications companies have moved into the world of IP networks.

We are also experiencing convergence in our customer base. The divisions between products we sell to enterprise and carrier customers are closing rapidly.

Convergence has been occurring for over a decade and will continue for many more years. The outcome will be determined by a combination of technology development, commercial service provision models and consumer demands and expectations. Regulation is an overlay on this but has the potential to distort outcomes and misdirect investment, rather than to facilitate the ongoing convergence process.

Convergence in its broadest sense is not a single process. There are spheres of convergence that are happening within and across industries at both the service and infrastructure level. These spheres have their own paths, issues and timeframes.

Nortel Networks is concerned that the underlying theme of the Issues Paper could be interpreted as being that government needs to intervene in convergence. Nortel is of the view that regulation in the future convergent environment should be based on:

- intervention only for issues for which the market has clearly failed or could reasonably be expected to fail;
- use of industry-self regulation as the preferred means of regulation and to the greatest extent possible;
- technology neutral regulation for carriage and content with separate regulation of these;
- review of current regulatory requirements for future relevance, whether they might prevent the efficient progress of convergence and possible removal of requirements;
- use of general law and associated regulators to the greatest extent possible; and
- removal of regulatory boundaries between industries subject to convergence.

It is notable that the internet has become ubiquitous in much of the world despite efforts by some governments to attempt to control its development, services and access by its citizens. This is an example of business meeting the demands of consumers and consumers overcoming obstacles imposed by their governments. The Internet 2 Consortium has structured itself to avoid intervention by US government despite the FCC's intention to reduce regulation on the internet as set out in its paper "Unregulating the Internet".

Areas of uncertain technical and market development should only see government intervention through regulation when there is a clear market failure or national public policy objectives are not being met. This is because of the risk that government intervention will not achieve the results desired or have unintended adverse effects. Some examples of unsuccessful

Australian government decisions in communications or that had unintended outcomes include:

The restriction by previous governments on the number FM radio stations by using some of the internationally used radiofrequency spectrum for TV channels held back provision of FM services in major markets for many decades and is still being resolved. Use of retained spectrum for TV led to Australia having some channels (3, 4 and 5A) that were not commonly used overseas. This resulted in Australia having higher cost, and often older technology, TV receivers than it would have had otherwise. The reduced number of FM channels meant that AM stations could not migrate to FM after they did not participate in the initial allocation of licences leading to the adoption of the unsuccessful AM Stereo standard. Spectrum kept for a sixth TV network was wasted.

The B-MAC satellite system was selected by government as the transmission standard for remote area satellite TV. This resulted in high cost receivers (many times more expensive than some alternatives) with no other residential consumer market at the time it was chosen. No residential consumer market ever eventuated elsewhere and there were ongoing problems with the supply of receivers and spare parts.

The decision by government to require satellite pay TV to use a digital transmission standard led to the use of what were initially very high cost receivers with delays in supply due to a lack of international deployment. This provided an opportunity for MDS as an alternate delivery technology and government later legislated to make MDS less attractive, although it still established an important role in the provision of pay TV. As a result, satellites' role in providing pay TV has been smaller than anticipated when the initial decision was made and competing HFC networks have been established.

An example of legislation impeding services that will be more important as convergence proceeds, and hence convergence itself, is that the Broadcasting Services Act 1992 prevents the provision of broadcast TV services that have a mix of advertising and subscription revenue with subscriptions not being the predominate form of revenue. This is the major form of cable TV in the US and as the capabilities of the internet increase could become an unnecessary impediment to convergence. Furthermore, the distribution of video programs over the internet will become indistinguishable from broadcast TV and the Act will apply creating conflicts with licence conditions and limits on the number of commercial TV stations.

On page 14, the explanation of a key difference between open and proprietary standards does not recognise the major role of intellectual property in open standards. Most open standards are highly dependent on intellectual property that is covered by patents and the users of these open standards have to pay licence fees to the intellectual property holder. For example, the development of the M-PEG2 digital video standard was delayed in the finalisation stage due to concerns that some of the many intellectual property owners whose ideas were incorporated into the draft standard would not make their property available. M-PEG2 is the core of new video technologies such as digital TV and DVD. Another example is that the providers of CDMA equipment under the open CDMA standard must pay licence fees to Qualcomm the developer of the technology.

The key difference between open and proprietary standards is that open standards can be used by any supplier provided they pay the licence fees and the intellectual property owners have agreed to licence other suppliers. Proprietary standards are the internal knowledge of the owner and can only be used with their agreement. Most innovation is not by open standards, more often a number of competitors develop their own proprietary standard and, because this often constrains the development of the market, jointly develop an open standard combining the best features of the proprietary standards. The original developers earn income through their licence fees.

Proprietary standards allow early entry into a market and can have a transitional path to future open standards. In particular, when the proprietary standards owner has planned for this and leads in the development of the open standard to ensure that compatibility is achieved between the standards.

It is key to balance the benefits of the early provision of the results of innovation to consumers and business and pay back to the original investors in the innovation against the longer-term benefits of open standards. Timing is critical to this because the market normally guarantees this happens if the level of information available is adequate to ensure appropriate levels of investment. Investors take the risks in the market and regulatory uncertainties add to that risk.

Economic outcomes and objectives

While the list on page 29 appears comprehensive, it should be recognised that not all of these have required government intervention or are amenable to it. For example, service innovation is primarily a commercial market outcome, with the government usually being limited to being a lead user for an innovative service to encourage its use. Technical standards for interconnection are developed by industry in ACIF working committees without government intervention.

The price-based allocation of number ranges is not a good example of the efficient allocation of public resources other than for some special numbers, such as those that are easy to remember. Otherwise it reflects the government taxing a non-scarce, but necessary, input to the telecommunications industry.

Social outcomes and objectives

These objectives are well accepted in the Australian community but in a convergent environment need to be reconsidered as to their meaning, relevance and mechanisms for provision. This particularly applies to the USO with the increasing personalisation of services and devices – see the response to Q 5 below.

The Issues Paper recognises the importance of communications to Australia's economic success and its increasingly important role as an input to most economic activity. However, regulatory imposts on the industry make it very highly taxed compared with most other industries. The telecommunications industry bears the increasing cost of the USO and many other regulatory requirements leading to increased charges for telecommunications services and, hence, higher input charges for Australian business.

Australia must be internationally competitive in the global IT&T industry. If telecommunications charges are higher here than necessary due to regulatory costs, this has wide impacts including on decisions on the

location of regional communications hubs, corporate headquarters and business investment.

IT&T skills availability

The ability of Australia to participate in, and benefit from, convergence is critically dependent on the availability of the necessary skilled workforce. The IT&T Skills Taskforce found a serious and growing shortage of skilled people in Australia and recommended measures to be undertaken by industry and government to address this shortage. It is essential that the government move to address this shortage now; otherwise Australia will lose investment opportunities in the development of the industries of the information age.

Reponses to issues raised in the Paper

Q 2 Government intervention may influence industry structure but it is highly undesirable that governments attempt to determine what industry structure will result from convergence. Nortel Networks recognises that governments must monitor convergence trends and be able to step in when markets fail or significant barriers to efficient market operation exist. The structure of convergent industries should be allowed to evolve in response to technological and service development in a commercial environment that is responding to customer needs. Government's role should be to remove impediments to possible avenues of development but it should not predetermine an industry structure or try to facilitate a particular approach. As the examples above demonstrate, it is too easy for governments to make costly mistakes in this area with the result that Australia is less competitive than it might otherwise be.

Q 5 There are clear benefits in separating carriage from content regulation. Carriage should be regulated in a technology-neutral manner and content should be regulated independently from its means of carriage. General law, rather than communications specific law, should be used to the greatest extent possible as convergence proceeds. Together with this general industry regulators should be preferred over industry-specific regulators to prevent disappearing boundaries between industries being retained by the existence of industry-specific regulators.

Q 7 The development of international standards is an output of within-company innovation and as such government has little if any role or ability to influence international standards processes. This is exacerbated by the trend for major new standards development to be undertaken in industry created standards forums that are outside traditional standards bodies such as the ITU. However, government could have a role in part funding Australian involvement in international standards processes to allow any Australian input to be made effectively and to allow early business use of the standards here.

Government does have a role in ensuring that Australia use international or major regional standards.

Q 12 The development of more personalised services and devices will make the USO less relevant and mitigate against universal requirements in general. An early example is the mobile telephone. This is a personal communications device and owners choose models with the capabilities they require. For example, not all users want short messaging or fax/data capability. As users are presented with more options in terms of services, devices and charges, it will become more difficult to establish what a minimum capability for the USO might be, because an effective minimum

will become individual specific and subject to individual taste. Individuals will be able to choose what services they want by the capabilities of the devices they select. However, a minimum level is likely to be needed for some time, but this minimum will need to encompass the growing number of substitutable means of providing access to telecommunications services. To over-specify network requirements risks wasteful investment in infrastructure.

Q 14 It is not clear that the government has an ongoing regulatory role in either the facilitation of the delivery of applications and services or the provision of connectivity, bandwidth or infrastructure unless there is a clear market failure. This market failure would need to be a substantial failure in meeting a national policy objective.

Nortel Networks generally supports proactive government investment programs such as Networking the Nation and Building on Australia's IT Strengths and sees them as being preferable to regulatory direction of industry. However, there are risks that the investment by government will lead to a direction of industry development that is not sustainable or internationally competitive.

Q 17 The role of government in Australian industry development should include having a world competitive economic and fiscal environment that makes Australia a good place to undertake product, services and applications development. Nortel Networks recognises that the Government is working to achieve this and supports the measures being taken. Government should also look at specific measures to encourage industry development in key new areas by the use of directed programs, but needs to guard against attempting to pick areas that might be winners in the future. The later comment particularly applies to narrow areas.

Nortel Networks strongly supports the PfD program which encourages sensible business investment in Australia as a precondition for substantial sales to government and carriers.

Q 19 Government has a key role as a lead user of new services and technologies. By using its market power it can influence the development of the products it wants and promote their early adoption in Australia. If these products are chosen correctly and provided in advance of those in competing destinations for investment, this can add to the attractiveness of Australia as an investment location. It is disturbing that Australia appears to be slipping behind the leaders in the provision and take-up e-commerce and in providing the necessary skilled workforce.

Q 20 Nortel Networks' experience through our Integrated Community Networks activities demonstrates the need to use demand creation and aggregation to make investment viable, particularly in regional areas. Strategic partnerships with service providers, integrators such as Nortel Networks, government and communities using the ICN process have been used successfully to consolidate and stimulate demand based on applications generation (eg. distance education) in order to justify network and technology investments. Nortel Networks has been active in over 20 of these networks in North America, the most notable being New Brunswick in Canada, and has introduced such partnerships to Australia initially in Tasmania with the state government and has progressed to regional areas in NSW and Queensland.

Q 22 Service and infrastructure regulation should be separate. To mix the two risks having an inconsistent regulatory regime for services depending

on the means of delivery which would lead to commercial decision based on regulatory advantage.

Q 23 Broadcasting spectrum should not be treated differently to any other spectrum used by communications infrastructure. To continue to do so is to deny convergence's existence and the growing loss of broadcasting spectrum's special status. This status is largely a result of government devised industry structures that will be seriously challenged by convergence.

Q 35 The examples of unsuccessful government decisions on new communications directions given earlier illustrate the risks inherent in government intervention even though it is well-intentioned.

Q 36 See the response to Q 5.

I look forward to meeting with you to discuss Nortel Networks' vision with you and any questions you may have on the above submission. Please contact Graeme King on (02) 6232 6781 or myself on (03) 9206 4668 for further information.

Yours faithfully

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