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Transition to a National Broadband Network

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## Transition to a National Broadband Network

It is the right time to focus on the development of an appropriate policy and regulatory framework for the broadband-enabled environment of converged networks.

### Key issues

Communications Alliance's policy focus document, *Preparing for the Broadband World*, (attachment A) considers some of the fundamental high-level principles for the development of the convergence framework.

these include:

- Ubiquity
- Access
- Technology neutrality
- the end user
- Competition and innovation
- Appropriate regulation
- Privacy and Security
- Stakeholder collaboration

A considerable amount of pro-active work has been undertaken by industry members at Communications Alliance over the last 5 years to prepare for migration to the National Broadband Network, including:

- Next Generation Network (NGN) Framework Options Group Project 2004 (available on request);
- Future forums on Fibre, Mobile and Wireless in 2006 (attachment B);
- Stage 1 Draft Work Plan for Strategic Transitioning to NGN in 2007 (endorsed by the Department, ACMA, ACCC) (attachment C);
- 2007 Roundtables for Technical, operational and commercial issues for migrating to and operating in an FTN environment (attachment D);
- QoS Guidelines for IP Interconnect 2007  
[www.commsalliance.com.au/documents/guidelines/G632](http://www.commsalliance.com.au/documents/guidelines/G632) ; and
- Submission to the Review of the USO 2007  
[www.commsalliance.com.au/\\_data/page/21650/CommsAlliance\\_Submission\\_USO\\_Final.pdf](http://www.commsalliance.com.au/_data/page/21650/CommsAlliance_Submission_USO_Final.pdf)

Some of the key issues identified in these initiatives which will need to be addressed for migrating to and operating in a broadband-enabled environment include:

- the National Broadband Network should be open access;
- Principles need to be developed for the operation of the interconnection model, open access regime and the framework for the seamless transition of customers;
- Principles should be customer focussed from the perspective of the services currently supplied and the services potentially available over new network architecture. It is important that the migration does not result in dissatisfied customers; and
- It is critical that focus is maintained on resolving the application of the policy objective of the Universal Service Obligation in a broadband multi-carrier multi-network world. It is important that discussion continues on the scope of the voice service and definition of the STS.

Communications Alliance has a long history of developing collaborative industry outcomes in respect of technical, operational, customer equipment and consumer issues. As the deployment of broadband infrastructure is planned and undertaken, Communications Alliance will continue, where its members consider appropriate, to bring the industry together to develop the rules and arrangements for migrating to and operating in the broadband-enabled environment.

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**Policy Focus 2008**

Preparing for the Broadband World

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# 1 Development of policy framework for convergence

With the Government's policy initiatives for broadband infrastructure deployment, it is the position of Communications Alliance that now is the time to develop a policy framework for the broadband-enabled environment of converged networks, technologies and services.

## 2 Fundamental Principles for the Development of the Convergence Framework

The following principles should guide the development of the convergence framework:

### Ubiquity

- Ubiquitous national coverage of broadband network infrastructure.

### Access

- Broadband access networks should be 'open access' networks.
- All Australians should have access to affordable, advanced and secure broadband communications services.
- Communications technologies should expand the accessibility and usability of communications networks and services by people with disabilities.

### Technology

- Broadband deployment policies should be technology-neutral.
- Technology neutral spectrum policies to promote competitive wireless services and technologies.

### End-user

- Promotion of broadband take-up and provision of end-user education about the full potential of broadband applications.
- Delivery of social and economic benefits to all end-users.

### Competition and innovation

- Competition in the provision of converged content, services and applications should be fostered and facilitated.
- Foster innovation in communications technologies and services.

### Regulation and industry self-regulation

- Minimal regulation - competitive market forces and industry self-regulation should be the principal means of achieving outcomes for network deployments, network operations, industry behaviours and end-user outcomes.
- Regulation, where necessary, should be targeted and applied in circumstances of market failure.
- Regulation of content/services/applications, where necessary or appropriate, should be consistent across all delivery mediums.
- A single converged regulator should be created.

### Privacy and Security

- Provisions relating to security and privacy of communications so as to increase consumer confidence should be appropriate and applicable to broadband communications.

#### **Stakeholder collaboration**

- Technical solutions for security, privacy, content regulation, law enforcement should be developed in collaboration with industry.

### **3 Communications Alliance Policy Priority Areas 2008**

In addition to responding to Government-led initiatives for developing the broadband and convergence framework, Communications Alliance will pro-actively lead work in the following policy areas in 2008:

#### **USO review**

- Continuing work on defining the scope, cost and funding of a consumer right to access to a 'voice safety net'.

#### **Legislated customer service/consumer protection provisions**

- Review of legislated customer service/consumer protection provisions – STS, CSG - and their applicability in an environment of competitive broadband networks and services.

#### **Accessibility for people with disabilities**

- Review of current applicable international standards with a view to identifying issues for Australian consumers and identifying opportunities for promoting accessibility design into communications technologies and applications at global standards fora.

#### **Law enforcement**

- Collaborative engagement of CA members and A-Gs regarding potential for development of industry guidelines for data retention.

#### **Content**

- Identification of potential policy responses for consistent regulatory approach to content across all delivery mediums; collaborative Government/industry action for responses to and solutions for consumer issues in the delivery of content - including filtering for mobiles and internet, access to and cost of mobile premium services.

#### **TIO Scheme**

- Building on Galaxy market survey, undertake research and surveys with the objective of working collaboratively with the TIO to ensure a strong and effective dispute resolution scheme in the broadband convergence environment.

#### **Industry Code development**

- Review of provisions in Telecommunications Act and Broadcasting Services Act with a view to proposals for consistent provisions.

#### **Outline of convergence legislation**

- Development of an outline of convergence legislation and roles/responsibilities of convergence regulator.

Communications Alliance will also continue with input to:

**ALRC Privacy Review**

- Implementation of recommendations for collaborative production of guidelines relating to privacy.

**Productivity Commission Review of Australia's Consumer Policy Framework**

## **4 Communications Alliance Support of Government-Led Policy Priority Areas 2008**

Communications Alliance will support the implementation of the Government's policy initiatives and advocate for a policy framework for the convergence era based on the policy principles set out above by:

- providing a forum for and facilitating industry-Government dialogue
- providing industry perspectives on proposed regulatory reforms and key issues
- facilitating industry-led initiatives for the operational, technical and commercial requirements for migration to the broadband environment.

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FUTURE FORUMS REPORT  
NOVEMBER 2006

## SUMMARY

The Future Forums were held to identify the priority issues related to access technologies for Next Generation Networks (NGNs) and feed this into the development of Australia's strategic framework for the NGN transition.

Key issues identified in the presentations and discussions were, in no particular order:

- (a) Responsibility for managing content
- (b) End user awareness
- (c) Security
- (d) Increased provider-provider interactions
- (e) Increased user-provider interactions
- (f) Interoperability
- (g) Quality of Service (QoS)
- (h) Points Of Interconnection (POI)
- (i) Choice of network architecture
- (j) Access regime
- (k) Arrangements for application providers
- (l) Spectrum usage / availability
- (m) Contention

A number of presenters at the Future Forums highlighted the importance of a collaborative approach to finding solutions to these issues and recognized the key role for Communications Alliance to play in that activity.

Another notable comment from the Future Forums was the importance of focusing on the "positive sum" issues. That is, the ones that can help the industry grow and let end users benefit from new and enhanced services.

While some may like to characterise these issues facing the industry as "commercial" issues or "regulatory" issues, they are, in fact, all industry issues that need to be prioritized and addressed in the most appropriate manner.

The next steps are for industry representatives, working with government and regulators to prioritize the identified issues and develop a program to act on them.

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# 1 GENERAL

## 1.1 Background - About Communications Alliance

The Communications Alliance was formed in 2006 to provide a unified voice for the Australian communications industry and to lead it into the next generation of converging networks, technologies and services.

Although the Communications Alliance has its genesis in the merger of the Australian Communications Industry Forum (ACIF) and the Service Providers Association Inc (SPAN), it is a new organisation created specifically to drive the industry into the future with confidence, vitality and strength of purpose.

By providing leadership on new trends and directions, the Communications Alliance fulfils a vital unifying role on behalf of the industry and its members, particularly in areas of competition, innovation and industry development.

The prime mission of the Communications Alliance is to promote the growth of the Australian communications industry and the protection of consumer interests by fostering the highest standards of business ethics and behaviour through industry self-governance.

Membership of the Communications Alliance is drawn from a wide cross-section of the communications industry, including service providers, vendors, consultants and suppliers as well as business and consumer groups.

Members benefit from having the opportunity to make a meaningful contribution to the future direction of the industry and to participate in governing its operation.

## 1.2 Background - About The Future Forums

The Future Forums were held in July, August, and September 2006 to identify the priority issues related to NGN access technologies and feed this into the development of Australia's strategic framework for the NGN transition.

Communications Alliance is in the unique position of being able to bring together a diverse range of industry stakeholders to share their views about what drives the industry and what needs to be done to foster the development of NGNs and related services.

For example, the forums heard how the market for 3G services is driven by pricing and handset form factor. A well, there was the question of what drives broadband services and applications – does wide adoption of broadband encourage the development of applications that use broadband? On the other hand, does the availability of “must have” applications ignite the demand for broadband?

This diversity of course sometimes leads to divergent views, which helps identify the most important issues. This ensures that the industry, through Communications Alliance, is focused on making good decisions both for

the industry and for end users of telecommunications services. Moreover, making good decisions now are investments that can reduce or avoid later, costly changes.

### **1.3 Introduction**

This report brings together inputs from the wide range of views on topics presented at the Future Forums. It covers many viewpoints and identifies some common issues for the industry to address.

In many cases, an issue is something that came up in more than one Future Forum. In other cases, it may have been raised by one person but additional discussion emphasized its importance. Each issue includes explanatory information drawn from the various presentations and discussions at the Future Forums. Also worth noting is the overlapping nature of the issues, with each one influencing or being related to other issues.

In addition to identifying the issues for further work, another dimension is the timing, or when the work should take place. This is less of a question for matters such as end user awareness as activity can get underway now. The development of guidelines and standards always need to consider the state of international developments. In a global market, it is imperative to be aligned with global developments, but the Australian industry, with the guidance of Communications Alliance, has to choose the optimum time for the development/adoption of industry best practices.

## 2 THE ISSUES

### 2.1 Responsibility for managing content

An issue that received notable coverage was the question of who should be responsible for managing access to content. For example:

- (a) government via regulation;
- (b) service provider via filters, sign up processes, etc;
- (c) end users via education/awareness, leading to the installation and use of filters on their own devices (e.g. computers).

The related, fundamental question is what should be the respective roles of industry and government in managing access to content? Should the industry be more pro-active in its work with Government to develop an appropriate regulatory environment? Conversely, should the government consider adopting some aspects of our Asian neighbours' approach with a more hands-on, pro-regulatory approach?

Presentations included information on:

- (a) the range of organisations (both government and industry based) that provide regulatory, self regulatory or voluntary arrangements for content e.g. ACMA, TIO, ACCC, Communications Alliance, AIMIA, IIA, TISSC;
- (b) the types of content that are regulated / managed;
- (c) the approaches already in place (more detail below in 2.2).

A related issue arising from this is the number of regulators and industry bodies that provide information for end users and have a part in the processes of regulating or managing services. This maze of organisations makes it harder for an end user to know where to go for information they need, let alone where to go if they have a question of concern.

The ideal solution was acknowledged to be a single point of contact. In practice, some improved coordination between the relevant organisations would deliver benefits to end users. The challenge is how best to cover the range of responsibilities. This issue is closely linked into that of end user awareness.

It was also acknowledged that future developments with DCITA's Review of the Regulation of Content Delivered over Convergent Devices should result in a more consistent set of regulatory principles for content delivered over convergent communication devices.

### 2.2 End user safeguards

In general, end users are getting more choice about content they can access and services they can use, but not everyone in society can keep

up with this growth in choice nor comprehend all its implications. This leads to concerns about:

- (a) vulnerable members of the community being exposed to inappropriate content; and/or
- (b) end users not understanding their rights, responsibilities and safeguards.

Apart from the impact on the individual end users, these are also of concern to responsible providers. These providers appreciate their liability and obligations as well as the potential damage to their reputation by invalid association with such undesirable situations.

This means there is a need for increased end user awareness of things such as their rights, their responsibilities and the implications of the choices they can make. This requires both:

- (a) information to be available in an easy to use format; and
- (b) knowing where to get that information.

The Future Forums noted that there is already a substantial amount of industry activity on this and information is available through programs such as:

- (a) NetAlert Limited, Australia's Internet safety advisory body;
- (b) IIA's 'Family Friendly' ISPs;
- (c) Individual carrier arrangements e.g. age based restrictions on certain mobile content; and
- (d) initiatives by individual service providers.

This means that improving end user awareness of where to access the desired information is the key to improving satisfaction for end users and further reducing complaint levels in the industry.

It was also acknowledged that increased service provider awareness would naturally lead to improved information to consumers about their rights and safeguards. The Telecommunication Industry Ombudsman's (TIO) website was quoted as one such source of information. The critical path to achieving the increased awareness is ensuring that the information is disseminated to the target audience group – such as the TIO's member base.

## **2.3 Security**

The issue of security covers multiple different but closely related areas such as:

- (a) Authorization e.g. deciding who should have permission to access/use the equipment, permission to make changes to its configuration (and in doing so, possibly affect protection against attack);

- (b) Authentication e.g. processes such as using passwords for logging in, restricting physical access in order to secure and protect networks, equipment, services and applications; and
- (c) Identification e.g. confirming that the person or organisation one is dealing with is actually the one being represented online. Alternately, protecting against identify theft and theft of personal information.

There is a whole industry focused on addressing security and there are continuing innovations to avoid, defend against and address security attacks. The issue as raised in the Future Forums was about the need for greater awareness and vigilance by end users and providers against attacks. This is because of the ability for equipment outside a managed environment to become a potential source of attack.

This issue links with that of end user awareness. This is because when end users are able to connect unsecured equipment to a network, then the risk of a malicious attack increases.

## **2.4 Increased provider-provider interactions**

The decoupling of networks and services under, for example, the IP Multimedia Subsystem (IMS) leads to a more modular environment than under traditional networks. This enables the existence of both:

- (a) integrated providers; and
- (b) niche or specialist organisations focused on one piece of a previously bundled offer.

For example, an end user can choose an integrated provider to supply the network, voice service and related services (e.g. directory), or alternatively, choose a voice service provider that operates over whatever IP network the customer chooses.

This has changed the nature of interactions between providers from one of customised arrangements between a few integrated providers to one where there are interactions with both many providers and many types of providers (i.e. integrated, niche). This growth in both the number and the type of providers cannot support heavily customised agreements in a cost effective way. Therefore, there is a need for more structured / predefined inter-provider arrangements.

## **2.5 Increased user-provider interactions**

Since the decoupling of networks and services under the IMS leads to a greater number of possible providers, this makes possible a much larger range of interactions between end users and providers. The issue is how to manage that range of interactions.

Of course, some end users may choose to work with one integrated provider or systems integrator as a way of dealing with the choice. Others may want to pick and choose their suppliers, but find it difficult to make an informed choice or, once committed to their choices, find it difficult to manage the multiple arrangements. This links to the issue of end user

awareness (refer to 2.2) - can an end user appreciate the consequences of their actions if they are not making a properly informed choice?

This is especially important in an environment that continues to introduce new, complex technologies (e.g. 3G, WiMax and other wireless technologies). When there are competing claims about functionality and capability, end users need a provider to distil the key factors to communicate those factors effectively to them.

## **2.6 Interoperability**

Since the decoupling of networks and services under the IMS leads to a greater number of possible providers, this means there will be more complexity in ensuring the interoperability of various components to create and deliver a network, service or application.

This includes both the complexity of managing the interoperation of equipment (e.g. mobile phones with base stations,) and of organisations (e.g. roaming agreements across different technologies such as roaming between 2G/3G and WiFi networks).

Standards based implementations help reduce the complexity, but even then, there can still be implementation choices that need to be addressed.

There is standards work underway in a range of bodies (e.g. 3GPP, ETSI TISPAN, ITU-T, TIA) with some coordination between them and at varying stages of maturity (e.g. draft, stable, complete).

The issue identified in the Future Forums was to ensure the best Australian implementations of networks and services are aligned with international developments in a timely manner.

## **2.7 Quality of Service (QoS)**

The growth in available bandwidth and increased intelligence of terminal equipment has led to a growth in the available services being carried over the one network. Some services are delay sensitive (e.g. voice, video), some not so (e.g. file transfer). The difference in sensitivity means there is an issue of providing end-to-end QoS arrangements.

There is work underway within Communications Alliance on the technical recommendations for interconnecting equipment and networks in order to maintain QoS.

Complementary activity would be to develop standard terms or conditions for interconnection to maintain QoS, for use in a bilateral agreement.

## **2.8 Points Of Interconnection (POI)**

The ability under IMS to decouple networks and services makes it possible to distinguish between a physical Point Of Interconnection (POI) for a cable/fibre, the POI for connecting a service and the POI for other things such as network management/control. This raises the issue of how to manage these multiple POIs.

There is the related issue of choice of network architecture (see 2.9 below) that raises the question of where the physical POI should be.

## **2.9 Choice of network architecture**

The issue about the choice of the copper/fibre access network architecture, namely between use of:

- (a) Unconditioned Local Loop (ULL);
- (b) Fibre To The Node (FTTN); and
- (c) Fibre To The Home (FTTH);

raises important, fundamental questions for the industry.

There are a series of sub issues related to this issue identified in earlier ACIF work (e.g. related to cabinets, network planning, transition planning, legal, and regulatory), and it is closely related to the issues here on POIs (refer to 2.8) and the access regime (refer to 2.10).

For example, a move to a FTTN architecture would increase the number of potential physical POIs, which changes the economics of interconnecting networks and throws up questions about the nature of access to a network (e.g. physical vs virtual access).

## **2.10 Access regime**

Discussions in the Future Forums about the use of ULL, FTTN and FTTH, plus competitor access to networks and/or services, fostered strong debate about access arrangements. For example, depending on where, and at what level, access is provided will determine whether access seekers can only resell a service, or whether the point and/or level of access will allow the access seekers to differentiate themselves in the market.

There are divergent views in the industry about the issue of whether or not the current access regime should be retained or scrapped, and if retained, whether or not its current form is appropriate for the current and future needs of the industry.

While the debate over migration to FTTN is not new, the trend to faster broadband connections and the related demand for higher bandwidth applications has significantly raised the interest of the industry in the topic.

Also of interest is how the evolution of the internet from a *distribution* medium (with asymmetrical upload/download access rates) to one of a *communications* medium (where symmetric access rates are of greater importance) highlights the critical nature of access arrangements.

Discussion in the Future Forums recognized the complexity of the operational, technical and commercial aspects of accessing networks and therefore the extreme difficulty in resolving the matters.

The issue is one that is fundamental to the competitive arrangements for the industry and will require substantial resources to resolve.

## 2.11 Regulatory Arrangements

The existing regulatory environment is set up to address "carriage services" and "content services". When there is clear demarcation of responsibility then this is easy enough to apply. For example, when an end user downloads content from a ringtone provider using their mobile phone service.

The growth in applications providers (e.g. for online applications such as personnel management, payroll) raises the issue of whether or not such application providers require any specific arrangements to manage or regulate them.

If so, what should they be? Alternatively, if applications are exempted for such arrangements, should some of the existing requirements for content or carriage be wound back or removed?

At the same time, the shift towards developing non-mandatory arrangements (that may be picked up in enforceable agreements) will result in a different environment for NGNs in the future than for 'traditional' networks and services. e.g. the trend to develop Guidelines rather than Standards and Codes.

## 2.12 Spectrum usage / availability

One spectrum issue from the Future Forums was around questions on spectrum usage, for example:

- (a) should spectrum be for prescribed purposes? (e.g. mobile telephony, analogue TV, DVB); or
- (b) should spectrum use be left to the choice of the spectrum license holder?

Another related, significant issue arising from discussion at the Future Forums was the availability of spectrum. The ACMA paper on Wireless Spectrum Strategies had asked the industry many questions about how to effectively manage and use spectrum, with many responses being provided.

Spectrum is becoming available in the future but there remains some uncertainty about which bands will be available and when it will occur (e.g. the 2.5GHz band, currently popular for outside broadcasts and electronic news gathering on television could have an alternative use for broadband wireless services).

## 2.13 Contention

Contention is the ratio of the potential maximum demand to the actual capacity. For example, a contention ratio of 20:1 means that a user is sharing an allocated bandwidth with up to 19 other users.

A couple of ways this is implemented are:

- (a) a mobile handset sharing radio channels in the access network; or

- (b) a DSL service sharing available backhaul capacity.

This model works in an environment where users are intermittently using a service, particularly when the internet is being used as a distribution medium. However, as the use of the internet as a communications medium is changing to one where users are increasingly becoming authors of material, this model for dimensioning access becomes less tenable.

This in turn sets up a potential conflict between how providers dimension their networks and services and the way those networks and services are used. The Future Forums recognized:

- (a) the complexity of effectively communicating performance information related to contention; and
- (b) that it has a direct effect on the end user experience of a service; and
- (c) that it has a direct effect on the economics of a business.

Discussion in a Future Forum raised the desirability of developing a guideline for contention issues, while recognizing at the same time that such a guideline can be hard to define and implement.

### **3 NEXT STEPS**

#### **3.1 Communications Alliance**

The Future Forums provided the opportunity for the industry to identify and debate the priority issues it is facing at present. This was achieved through the formal presentations, question and answer sessions and informal discussions during breaks at the forums.

Now that the Future Forums have been held and the issues identified, the next steps (already underway) are feeding these issues into the Communications Alliance Work Programme, its own strategic planning process and its interactions with a range of government agencies (e.g. ACCC, ACMA, DCITA).

Your participation in, and contribution to Communications Alliance activities is encouraged and appreciated. Contact the Communications Alliance to find out more (<http://www.commsalliance.com.au> or phone +61 2 9959 9111).

## APPENDIX

### A TRENDS AFFECTING THE INDUSTRY

#### A1 INTRODUCTION

A.1.1 Below are some key trends affecting the industry that emerged from the Future Forum presentations and discussions. While the trends are not new to those involved in the industry, they summarize the strong influences on the industry and provide a basis for understanding changes taking place in the industry.

#### A2 TRENDS

A.2.1 From the presentations and discussions, the big trends driving change in the industry are:

- (i) **Increasing “decoupling”.** This enables end user choice with an opportunity to unpick bundles of content delivered via applications using services operating over networks and equipment (e.g. I'll have my access from here, my broadband from there and my voice application from over there). However some end users may prefer to let someone else manage those choices. It also enables providers to manage different components of their service offerings in modules, lowering operating cost and simplifying system management.
- (ii) **Intelligence is moving to terminals.** This enables choice of functions for end users, but can increase complexity in managing services and functions. This is characterized by the change from having a simple phone on the PSTN that ones picks up, dials a number and uses for a conversation to the multimedia device that enables, for example, voice conversation, email, internet access, video downloads, and instant messaging
- (iii) **Growth in bandwidth.** This enables new applications/services with the consequence that managing the multiple services increases complexity for end users and in the network.

A.2.2 This is all happening in the environment of declining component cost, leading to cheaper equipment and/or greater functionality. The standard response of many suppliers is to add value by increasing functionality rather than just cut cost in terminal equipment and networks e.g. the growing processing power in mobile handsets and PCs, the faster capabilities of modems and routers, etc.

A.2.3 This means that end users are receiving a greater choice of services and gaining greater control over those services. However the increased choice also leads to greater complexity. For some people the preferred approach is to leave the complexity to someone who understands it, for others, they embrace the ability to pick and choose.

## **APPENDIX**

### **B ACKNOWLEDGEMENTS**

#### **B1 INTRODUCTION**

B.1.1 The Future Forums were made possible through the support of the following individuals and organisations.

#### **B2 BAKER & MCKENZIE**

B.2.1 Baker & McKenzie, generously provided the venue and related support for the Future Forums.

#### **B3 PRESENTERS**

B.3.1 Presenters at the Future Forums:

- (i) Paul Brooks, Founder, Layer 10
- (ii) Michael Cosgrave, GM of Telecommunications, ACCC
- (iii) Chris Ford, Chief Technical Officer – ANZ, Lucent Technologies
- (iv) Paul Fletcher, Director of Corporate & Regulatory Affairs, Optus
- (v) Colin Lyons, GM Telecommunications, Competition & Consumer Branch, DCITA
- (vi) Tony Warren, GM Regulatory Affairs, Telstra
- (vii) Jim Holmes, Principal Consultant, Ovum
- (viii) David Swift, Managing Director, Gibson Quai AAS (representing ATUG)
- (ix) Shara Evans, CEO, Market Clarity
- (x) Anthony Goonan, CEO, YLESS4U
- (xi) Anthony Goonan, General Manager Wireless Planning, Telstra
- (xii) Simon Curry, Group Manager, Intel Australia
- (xiii) John Lindsay, Carrier Relations Manager, Internode
- (xiv) Charlie Cheng, Senior Marketing Manager, Huawei Technologies
- (xv) Patrick Choi, Co-Founder, BigAir
- (xvi) Neil Robinson, Manager, Access Technology & Planning, Optus Networks
- (xvii) Ray Owen, Asia Director, Motorola

- (xviii) Nevio Marinelli, Acting Principal Engineer, Spectrum Engineering Section, ACMA
- (xix) Neal Anderson, Ovum
- (xx) Tanya Stoianoff, Executive Director, Mobile Carriers Forum
- (xxi) Rosemary Sinclair, Managing Director, ATUG
- (xxii) Greg Palmer, Technical Strategy & Standards Manager, Hutchison
- (xxiii) Jane van Beelen, Deputy Director, Telstra
- (xxiv) Emily Ostrowski, Country Manager, Jamster
- (xxv) Jeni Floyd, Compliance & Policy Manager, Comms Alliance

## **B4 DISCUSSION FACILITATORS**

B.4.1 Discussion sessions at the forums were facilitated by:

- (i) David Crowe, Australian Financial Review
- (ii) Stuart Corner, Editor, Exchange
- (iii) Michael Sainsbury, Telecoms Writer, The Australian

Communications Alliance was formed in 2006 to provide a unified voice for the Australian communications industry and to lead it into the next generation of converging networks, technologies and services.

In pursuing its goals, Communications Alliance offers a forum for the industry to make coherent and constructive contributions to policy development and debate.

Communications Alliance seeks to facilitate open, effective and ethical competition between service providers while ensuring efficient, safe operation of networks, the provision of innovative services and the enhancement of consumer outcomes.

It is committed to the achievement of the policy objective of the *Telecommunications Act 1997* - the greatest practicable use of industry self-regulation without imposing undue financial and administrative burdens on industry.

# Attachment C: Stage 1 Draft Work Plan for Strategic Transitioning to NGN in 2007 (endorsed by the Department, ACMA, ACCC)

## Communications Alliance – Stage 1 Draft of Work Plan for Strategic Transitioning to NGN

This document identifies issues that fall into the collaborative working of all stakeholders, including Communications Alliance, DCITA, ACMA, ACCC and other bodies as appropriate. The issues listed in the table are based on NGN work that is currently underway or has been completed, noting that it has had a predominantly VoIP focus to date. The identified work will have an overall alignment with international development were appropriate.

This work has been divided into the following stages:

- Stage 1:** Development of draft Work Plan (this document).
- Stage 2:** Discussion of draft Work Plan with DCITA, ACMA and the ACCC.
- Stage 3:** Define the projects arising from the issues identified in the Work Plan.

Key to column headings

- Networks** Technical issues related to connectivity of networks and of CE to those networks (Standards, guidelines etc)
- Services** Technical issues related to the supply of services and applications used in conjunction with those services
- Relationships** Interoperator, end-user/provider issues
- Regulation** Australian regulatory issues
- In/Out** In: Work that is scoped within Communications Alliance at this stage. Out: Work that is clearly not Communications Alliance work.

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
<b>Interoperability</b>	Consideration of interoperability of CE and networks in NGN environment.			Legacy regulation to be managed in transition period.	In	CE Standards development process in place.	CE – ongoing development/review
	Consideration of interoperability between networks in NGN environment.		Interconnection arrangements (as carriers upgrade their networks)	Legacy regulation to be managed in transition period.	In	IP Network specs in place IP Network interoperation managed through peering or bilateral agreements.	NW -

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
		Interconnection of VoIP services			In	Underway within the VoIP WG	
		Consideration of interoperability of <b>services</b> (extending the work in VoIP) and <b>applications</b> in NGN environment.					
		Delayering, decoupling of networks components					
	International alignment						
	Definition of the <b>Network Boundary</b> in a multi-provider, multi-service environment		Demarcation of responsibilities	Customer Equipment and Customer Cabling are defined in relation to the Network Boundary	In		
<b>Competition issues</b>	Proprietary technology		Interconnection settlement models (bandwidth, QoS, volume versus distance/time)	Legacy regulation			
	Interconnection of networks to make services available		Number portability industry arrangements (when declared)				
	Customer Equipment (CE)		Pre-selection				
	Network architecture could impede competition		Net neutrality - Industry agreement to ensure that providers of content get access to networks				

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
	Content access across different platforms		TAF mark 2				
			Agreement of access on reasonable competitive terms				
			Anti-competitive behaviour				
			Bottlenecks				
			Access				
			Financial compensation to all in the supply chain				
<b>Facilities access</b>	Establishment. Setting up services. Maintenance / fault rectification.	Reliability of services	FTTx access	Regulation of CE/consumer equipment	in	Issue identification and way forward	
	New access technologies - fibre (FTTx) - DSL - wireless		Copper legacy	USO model in an NGN environment.			
	Cabinets that house the fibre nodes -POIs, local government and planning, environment hazards and protection.			Regulatory approval mechanisms			
	Network planning e.g. Stranded assets; network design, decommissioning equipment, exchanges, buildings; remediation planning.			Porting issues			

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
	Transition Planning e.g. migration for access seekers, legal interception, terms and conditions, mid point injection issues			Practical and economic access to new or upgraded networks			
	Network boundaries.						
	Standards e.g. Customer equipment, dealing with international standards						
	Access to legacy copper ('dark copper')		Commercial terms	Spectrum allocation and charging.			
	CE + network Stds/Codes		Interoperator				
<b>Access to services/applications</b> (including user devices)	Applicability of telecommunications Standards to <b>converged devices</b> in the future (acknowledging the blurring of communications, IT and AV devices, for example home gateways)	Impact of issues such as QoS, availability, reliability, delay performance on user access to services.		What types of communication devices in the future need to be considered as CE and hence governed by telecommunication regulation?	in		
	Impact of <b>Network management</b> (e.g. session control, authentication) – on the 'user experience'.	Consider issues arising from <b>new services</b> (e.g. NGN messaging, any-to-any text connectivity).			in		
	User issues concerning how the services are provided and operate transparently to the underlying networks (' <b>service transparency</b> ') in the operation of services.				in		

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
	Accommodation of <b>accessibility features</b> on handsets and other devices.	Provision of new services like IP video and IP text to meet <b>accessibility needs</b> .			In		
	The increasing ability for users to <b>modify CE settings</b> (software programmable) with associated compliance implications.				In		
	User rights/expectations of what services/safeguards are provided with different services (issues relating to STS, primary services, life-line services) (e.g. issues concerning any-to-any connectivity, differentiating 1-way / 2-way calls).					DCITA VoIP Discussion paper. Review by VoIP WG.	
<b>Customer support /service and consumer protection</b>		Provision of <b>directory services</b> in a multi-provider environment.	Interprovider relationships	What services will the <b>CSG</b> apply to?	In	DCITA VoIP CSG discussion paper	
		Provision of <b>operator services</b> in a multi-provider environment.	Complexities in <b>fault identification</b> in a multi-service environment.	Membership of industry participants in the <b>TIO scheme</b> .	In		
			Complexities in <b>billing</b> in an NGN environment.	The increasing difficulty in applying the concept of the <b>STS</b> (and primary services) in an NGN environment.			

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
			Need for trust/security framework to be established as telecommunication devices are providing access to more and more <b>financial services</b> .	The application of the <b>USO</b> in an NGN environment.			
			Identifying the <b>responsibilities</b> in a multi-provider environment.	The impact of the evolution of NGN services on the digital divide.			
<b>Location information</b>	Technology choices for support of location information format	International alignment	Arrangements to maintain privacy	Needed for law enforcement purposes	In	Underway in VoIP Working Group	Report from Location Information Working Group on technology choices.
	Customer Equipment capability	Support of the acquisition and transfer of location information					
		Interoperation to enable transfer of location information					
		Readiness of emergency service organisations to receive and process IP based location information					
		Nomadacity					
<b>Numbering and addressing</b>		Introduction of Number range (new 0550) consequences	Portability within 0550 range when declared	Review of Numbering Plan (new number ranges, addressing in IP space, email)	In	VoIP WG Discussion paper under consideration	Input to review of Numbering Plan

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
		Provision of directory services and assistance	Consideration of Portability within geographic range for new services				
	Addressing (user control)	Addressing					
<b>Quality of Service (QoS)</b>	Definition/Classification of service classes to enable support by IP networks	Defining performance requirements for voice (i.e. VoIP) services.	Consumer expectations		In	VoIP QoS Working Committee  IP Network QoS Working Committee	Guideline and testing arrangements.  Guideline and testing arrangements.
	International	Defining performance requirements for non voice services e.g. interactive video, real-time text	Bilateral agreements				
<b>Content</b>		User generated		Content regulation – classification and limitation (e.g. sex services)			
		Mobile		Access			
				SPAM			
<b>Education</b>			The need for <b>industry education</b> in supplying NGN services and devices (e.g. acceptable advertising – broadband speed)		In	Existing Codes in place. Considerations by VoIP WG.	Fact sheets Training

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
			The need for <b>end user/consumer education</b> , for example the differences between circuit-switched and NGN services (including issues concerning CSG, QoS, mains powering, number ranges, security vulnerabilities, location information, touch tone use).		In		Brochures
			Where to find the information.				
<b>Law enforcement</b>	Provisioning of networks	Interception of multiple service types	Data retention	Interception	In	Industry consultation/submissions to government.	Law Enforcement Group
		Use of encryption by endpoints	Prime responsibility for law enforcement support				
		Life threatening and unwelcome video communications					
<b>Emergency Services</b>	What consumer devices (CE) need to support ES?	What services need to support ES (life line support)? What are the ESs (currently 000, 112 and 106)	Trusted parties	ES Determination	In	CE Standards development process in place.	
	Network support for providing location information	Support for location information	Nomadacity			VoIP WG Underway	

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
	CE support of location information	VoIP			In	Monitoring international	
<b>Security</b>	Having the necessary <b>equipment and network standards</b> in place, noting the overlap/coordination with the IT industry	The management of <b>security and privacy requirements</b> are increasingly being governed more by applications and are less and less in control of the providers.		Review of <b>privacy legislation</b> .		Monitoring international activities	
	Inability in providing <b>legal interception</b> due to the limitations of technology.	Managing <b>NGN security issues</b> such as spoofing, denial of Service (DoS) attacks, identity theft etc.		Addressing the <b>legal interception requirements</b> in an NGN environment.			
	Managing <b>critical infrastructure vulnerabilities</b> brought about in an IP environment.	Addressing problems of <b>spam</b> (text, voice etc) and <b>unsolicited messages</b> .					
	The increasing ability for users to <b>modify CE settings</b> (software programmable) with associated security implications.	User <b>privacy</b> issues including the ability of maintaining <b>user anonymity, opting in &amp; out</b> of services, information usage.					
<b>Jurisdiction/ Extraterritoriality</b>			Cooperation / arrangements among provider to resolve issues.	Having fair and balanced national regulations in light of services that can be provided from outside Australia.	Out		

	Networks	Services	Relationships	Regulation	In/Out	Status	Likely output/activities
				Having provisions in place to deal with overseas recalcitrants, for example by way of sanctions, consumer warnings, black lists.	Out		
			Provision of necessary consumer warnings				
			Introduction of sanctions as appropriate.				
<b>General</b>	Definitions, e.g. - broadcast, - STS - broadband - services & applications	Definitions			In	Being addressed in fora as required/ In scope of NGN coordination group	
	Industry coordination and cooperation. Participation in processes.	Industry coordination and cooperation. Participation in processes.	Industry coordination and cooperation. Participation in processes.				
			Disclosure of limitations for services				

# Attachment D: 2007 Roundtables for Technical, operational and commercial issues for migrating to and operating in an FTTN environment

## COMMUNICATIONS ALLIANCE

### Summary notes from the roundtable discussion on “Technical and Operational Issues for migrating to and operating in an FTTN environment”

Thursday 7 June 2007

#### SUMMARY

It became clear from the roundtable that stakeholders have many different interpretations of the terminology around FTTN and NGN – including ‘open access’ and ‘interconnection’ – and that a key role for Communications Alliance is the collation of the different views and developing an agreed language.

Assuming that a central tenet of Australia's broadband future will be an FTTN network, Communications Alliance members agree that the principles for the operation of the interconnection model and the open access regime, as well as the framework for the seamless transition of customers, are priority areas for industry action.

The collation of Communications Alliance members' views in these priority areas will provide a valuable reference for commentary on the network infrastructure proposals which may be tabled.

Communications Alliance members agreed at the roundtable that the principles should be customer-focussed from the perspective of the services currently supplied and the services potentially available over a new network architecture, and that it was important that the migration does not result in stranded or dissatisfied customers.

#### NEXT STEPS

There are aspects of work that can be progressed proactively and others that are dependent on separate decisions (e.g. network ownership model, which influences some parts of the access arrangements).

To convene a steering group, following outcomes from the round table meeting on 21 June 2007 on “*Commercial principles for wholesale access arrangements in an FTTN environment*”.

Specifically, identified activities include scoping the work to define:

1. a minimum set of services, from a customer focus perspective;
2. the network architecture to deliver those services;
3. the boundaries between the various areas e.g. networks and services, transitional and operational, wholesale and retail; and
4. the roles and their responsibilities e.g. wholesale and retail service provision, network provider and access seeker, systems integrator.

## ADDITIONAL INFORMATION

Underlying assumptions include:

- (i) there will be a FTTN, even though timing is uncertain at present
- (ii) there will be wholesale access
- (iii) there needs to be industry collaborative work.

Agreements from the roundtable include development of:

- (i) a common understanding on definitions for key terms e.g. "open access", "interconnection".
- (ii) an interconnection model / framework is required.
- (iii) a migration framework to avoid stranded customer base(s).
- (iv) an ability to move customers seamlessly without affecting services. e.g. Identify procedural barriers, jumpering, type of interface.
- (v) guidelines for Australian conditions with the adoption of international standards for interconnection.

Other possible areas include:

- (vi) a role to provide commentary on proposed fibre network solutions.
- (vii) Principles to resolve issues from a customer focus .

Key questions for future work include:

- (i) ***What services are expected to operate over the network?***
- (ii) ***Where are the points of interconnection (POIs)?***
- (iii) ***Where is the service delivery point?***
- (iv) ***Where is the access point?***
- (v) ***What level of access/interface is there between operational systems?***
- (vi) ***What are the principles for access?***
- (vii) ***How to request access?***
- (viii) ***What is/is not supported by default?***
- (ix) ***Who is responsible for what components?***
- (x) ***What happens in a migration?***

## Attendees

Michael Speer	Adtran Networks Pty Ltd
John Turner	Alcatel-Lucent
Stefan Keller-Tuberg	Alcatel-Lucent
Hans Lieberherr	Commander Australia Ltd
Peter Mahon Daly	Commander Australia Ltd
James Duck	Communications Alliance
Margaret Fleming	Communications Alliance
Anne Hurley	Communications Alliance
Christine Jang	Elders Telecommunications Pty Ltd
Tony Coyle	Ericsson Australia
Matthew Moyle-Croft	Internode/Agile Communications
Elizabeth Cascun-Valencic	Koala Telecom
Paul Brooks	Layer 10 Consulting
Ashley Halford	NEC Australia
Phil Martell	Nextgen Networks Pty Ltd
Richard McCarthy	NEXTEP Broadband
John Ritson	OPTUS
John Stanton	People Telecom
Stephen Baxter	PIPE Networks
Roger Marshall	Spectrum Communications
Denis Mullane	Telstra
Bob Spencer	Telstra Wholesale
Gregory Forbes	Telstra Wholesale
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