balance between the rights of owners and the rights of users that exist in the print environment.

LIABILITY OF CARRIERS AND ISPS

The Government's decision on the Digital Agenda copyright reforms also addresses the concerns expressed by carriers and ISPs about liability for infringements of copyright on their facilities. The Government has decided that ISPs and telecommunications carriers will not be liable for copyright infringements on their customers' web sites by reason only of the fact that the infringement occurs on the facilities of the carrier or ISP. If, however, the carrier or ISP has had a greater role in regard to that infringement than just providing the physical facilities for the website, then the question of possible liability for authorisation of the infringement will be determined by the principles of authorisation, which will be inclusively set out in the new legislation.

ENFORCEMENT MEASURES

The Digital Agenda copyright reforms also include two new enforcement measures. First, the Government has agreed to introduce criminal sanctions and civil remedies against the abuse of technological copyright protection measures such as program locks and encryption. The technological measures remedies include banning commercial dealings in circumvention devices such as unauthorised decoders to receive pay TV signals. Secondly, the Government has decided to introduce new sanctions against those who tamper with rights management information (RMI), which is electronically attached to copies of copyright material. RMI usually includes details about the copyright owner and the terms and conditions of use. These two new enforcement measures are critical in defending new and existing rights against piracy, which is often made easier by new technology.

CLRC RECOMMENDATIONS

The Government has also agreed to adopt many of the recommendations contained in the Copyright Law Review Committee (CLRC) report, *Computer Software Protection*. The Government is still considering the CLRC recommendations on decompilation of computer programs.

Both the Digital Agenda Discussion Paper and the CLRC report received widespread industry approval and were the subject of extensive consultation with the community. Over 70 written submissions were received on the Discussion Paper proposals, and many community consultations were also held. Those consulted included bodies representing owners of copyright, such as the Australian Copyright Council and copyright collecting societies; users of copyright, such as libraries, universities and schools; telecommunications carriers such as Telstra and Optus; and Internet Service Providers, such as OzEmail. The wide ranging Digital Agenda reforms to the *Copyright Act* approved by the Government take full account of this consultation.

These important copyright reforms will be included in an exposure draft *Copyright Amendment Bill* that the Government hopes to release for public comment in the coming months.

David Rees is a Lawyer in the Intellectual Property Branch of the Attorney-General's Department.

"Convergence": Reforms for New Media Technologies or, just another Plug-in?

Tim Dwyer from the ABA examines the utility of the term "convergence" and the complex factors to be considered when formulating a regulatory response.

"With digitalisation all of the media becomes translatable into each other - computer bits migrate merrily - and they escape from their traditional means of transmission... if that's not revolution enough, with digitalisation the content becomes totally plastic - any message, sound, or image may be edited from anything into anything else... digital is a noise-free medium, and it can error-correct' comments Negroponte... 'I can see no reason for anyone to work in the analog domain anymore - sound, film, video. All transmission will be digital."[1]

One of the difficulties with explanations of this kind is that while the broad trend has proved to be true enough, when you monitor the hyperbole you notice that the changes described are far from revolutionary: they've actually emerged in an orderly, piecemeal fashion that typifies technical developments based on scientific research and development in modernity.

NETWORK INTELLIGENCE

What has occurred is that certain advances have facilitated developments such as 'network intelligence'. In this particular example it was incremental technical developments in software programming which allowed increases in 'intelligence' functionality. This is not to deny the force of convergent technologies, a contemporary reality which has emerged with a powerful momentum, and which continues to generate unabating investment in the communications and information sector of the economy.

A recent Green Paper released by the European Commission frames the convergence issue in terms of the new business and market phenomena which are being enabled by technical developments, and how these are affecting relations between service providers and audiences/users. The paper offers some useful new evidence on 'network convergence' (eg. XDSL, ISDN, ATM and IP), market developments in services, and in relation to mergers and alliances between different segments of the services provision value chain.[2]

ANOMALIES IN INTRODUCING TECHNOLOGIES

Yet even in practical industrial applications, convergent technologies of delivery are characterised by anomalies and inconsistencies. For example, the idea that the Integrated System Digital Networks ("**ISDN**") would emerge as the main wireline delivery system within a multi-network society, has now been called into question. As one commentator argued:

> *"By the end of the 1980s the ISDN was a fractured concept. Competing networks have come into existence: cable television and satellite networks, dedicated LANs, competitive microwave and fibre-optic networks all undermine the scope for an integrated network. Far from becoming more integrated, networks have become more differentiated: packet networks, directory inquiry networks, mobile and switched circuit networks have evolved separately. The reality of sunk investment in separate networks has eroded confidence in the idea of the ISDN as a universal public network."*[3]

This observation, made almost ten years ago, remains valid: ISDN is a partial network infrastructure that teleco's continue to roll-out in selected market segments, and which is threatened by other network protocols.[4]

At a more basic technical level there are gaps and inconsistencies which point to alternatives to digital delivery mechanisms. Older analogue techniques continue to have their virtues for specific applications such as cable television delivery systems. Australia's Foxtel and Optus subscription pay television broadcasters transmit their signals over analogue systems. It will be interesting to see whether the introduction of Digital Terrestrial Television Broadcasting ("**DTTB**"), mandated to commence from 1 January 2001, forces the introduction of a common set-top box decoder unit across subscription and free-to-air television services.[5] This will become a critical test of the digital techno-orthodoxy in terms of the openness and interoperability of the different systems for the benefit of audiences.

CONVERGENCE: THE OUTCOME OF A RANGE OF FACTORS

Not shying away from these difficult technical issues, the then Australian Broadcasting Tribunal ("**ABT**") recommended in the early 1980s that the *Broadcasting Act* 1942 include a clear statement of system objectives and, the need for a single communications act to cope with converging technologies. As the years have passed the trend (and indeed pressures) towards convergences have steadily increased. However, it's important to realise that these trends towards convergence are a multi-dimensioned movement which is not confined simply to technical advances as many insist. There's been a great deal of cliched thinking about this thing we call convergence, which has now become part of the commonsense way of viewing technical developments in communications media: as if technology was somehow independent of a range of economic, political and cultural factors.

DISCRETE PROCESS

When discussing the kinds of developments we conveniently lump together under the convergence rubric, its worth remembering that it can (and does) refer to a number of discrete activities and processes. It can mean the tendency to similarity: in technology itself - for example, in reception devices like the PC or the TV; in the market, where there is a redefining of industry structures, services and products; in the restructuring of institutional arrangements; and, very importantly, in policy rhetorics themselves.

CARRIAGE & CONTENT

A major instance of the coming together of formerly distinct activities has occurred between carriage and content: new transactional services are breaking down the meaningfulness of this infrastructure versus program provision distinction. This is one of the central assertions of the *Telecommunications Act* 1997 ("**TA**"), recognising that earlier legal distinctions between telecommunications carriers and services providers have been greatly diminished. For the first time in telecommunications laws providers of content services are specifically catered for: a content service is a broadcast service, an on-line service or any other service specified by the Minister (see 15 TA).

CONSUMER ACTIVITIES

And, in a cultural sense, consumer activities are also converging: nowadays you can virtual bank or shop using the PC in the study or the WebTV in the living room. Technologies used in the past to carry personal communications are now carrying 'mass' communications. Or, to put this in a slightly different way, the earlier bifurcated understanding of point-to-point and point-to-multipoint communications media has assumed a more complex set of meanings. From a marketing perspective, this is sometimes framed in terms of access to the consumer who is likely to want to seamlessly switch between niche and mass categories in search of a postmodern identity. Equally, interactive computer mediated services and virtual private networks have for sometime whiteanted such distinctions.

CHANGES IN FRAMEWORKS

Intimately connected with these service delivery and application transformations (brought about by shifting political, economic, cultural and technical realities) are changes in the institutional and legal frameworks seeking to control these developments. Jock Given, in the context of an analysis of the introduction of DTTB to Australia, has noted the need to draw a distinction between the 'technical and rhetorical elements' in the digital bitstream 'common currency'. Further, quite rightly, he encourages some caution when it comes to the political rhetoric about 'technological neutrality':

> *"Governments which lectured on the necessity for unfettered markets and 'technological neutrality' (thinking about media and communications in terms of the services, or content, they offer rather than the means by which they deliver it) nevertheless mandated a digital transmission system for satellite pay TV in Australia, promised the shut-down of the analogue 'AMPS' mobile telephony system to ensure the development of digital GSM networks, and required Telstra to make 'digital data capability' available to 96% of Australians by 1998."*[6]

In Australia, the practical difficulties presented by convergence trends in electronic communications media has been very much a product of the slow accretion of the disparate laws governing each sector. At the time of their drafting these separate regulatory regimes for

broadcasting, telecommunications and radiocommunications were quite satisfactory to meet the communications objectives of the day. However, with the advance of information technologies and changing political, economic and cultural factors, these context-bound regimes have inevitably strained under the pressure of time.

PROBLEMS FOR REGULATORS

The obvious question which arises for regulators is: are there any viable alternative models of reform which seek to construct 'future-proof' legislative frameworks, other than the usual reactive pattern of layering amendment upon amendment? Information technologies in the broad, and electronic communications media in particular are, inevitably, sitting ducks when it comes to making assessments about the adequacy of legal frameworks which seek to balance the public interest against a variety of other industrial interests. The challenge will always be to lessen the impact of current assumptions (be they technical, economic or political) and being prepared to make a leap of faith regarding the wider long term social benefits enabled by more enduring principles.

Some commentators have argued that a key aim must be to make it easier to get into the market and to move towards lighter obligations applied in a consistent manner across the converged environment. They are therefore encouraged by instances in the computing, Internet and on-line publishing industries, where a degree of self-regulation, for example, in relation to harmful or illegal content on the Internet, has supplemented the application of general laws, such as competition or consumer protection rules applying across a whole range of economic activity. But, notwithstanding what are arguably positive developments, self-regulation is not without risks in light of the possibility of international inconsistency, in an era of increasing globalisation with international trade agreements.

THE VALUE OF THE TERM

Nevertheless, convergence remains a useful handle to describe a logic which is driving legislative change across what have in the past been regarded as fairly discrete electronic communications media sectors. However, there are other important political, economic, cultural and technical factors and rationales which are also contributing to these transformations. The continuing international reality of the Internet and other communications media services will also impact on regulatory approaches to the enforcement of, for example, licensing. These call into question the exact role of national licensing activities carried out either within a nation state or where services are delivered by region-wide platforms such as satellite. Similarly, the prospect of globally-networked, broadband satellites whose traffic includes high-speed, high volume Internet delivery further complicates future rules governing 'positive' regulations for diversity in ownership and control, Australian content and programming for children.

1 Brand, S. The Media Lab: Inventing the Future at MIT. London and New York, Penguin, 1987, p. 18-19. This book begins with the memorable dedication: 'Dedicated to the drafters and defenders of the First Amendment to the U.S. Constitution: *Congress shall make no law... abridging the freedom of speech or of the press.* Elegant code by witty programmers'.

2 *Green Paper on the Convergence of the Telecommunications, Media and Information Technology Sectors, and the Implications for Regulation*. Commission of the European Communities. Brussels, December, 1997. See also, *Webcasting and Convergence: Policy Implications*. OECD, DSTI/ICCP/TISP(97)6, December, 1997.

3 Mulgan, G. *Communications and Control: Networks and the New Economics of Communications*. London, Polity, 1991 p. 105.

4 See, for example, an interview between Liz Fell and Ron Spithill, MD, Alcatel Australia Ltd. Alcatel works with Telstra to install ISDN network facilities and services. *Australian Communications*. May 1998, p. 48.

5 The Government announced this by way of a Media Release 'Digital - A New Era in Television Broadcasting' dated 24 March 1998. The Government intends to introduce amendments to the *Broadcasting Service Act*, 1992 as soon as practicable.

6 Given, J. 'Being Digital: Australia's Television Choice', Media and Arts Law Review, Vol. 3 March 1998. p.40-41.

Tim Dwyer is with the policy and content regulation branch of the Australian Broadcasting Authority.