Internet Connectivity

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In May 1998 the competition regulator of telecommunications in Australia took action against the incumbent carrier, Telstra, for refusing to reach reciprocal payment arrangements with other Internet backbone providers. This paper sets out the background to this action and the specific nature of the allegations, which occurred in the context of a prohibition against anti-competitive conduct in telecommunications markets under Australia's *Trade Practices Act*. As a prelude to discussion of the issue of payment arrangements for Internet backbone services, the paper asks why regulators should be concerned about the Internet and whether the Internet raises new regulatory issues. It also explains the regulatory framework for telecommunications in Australia with a focus on competition regulation by the Australian Competition and Consumer Commission.

Should regulators be interested in the Internet?

The answer to this question is: it depends on the regulator. This paper is written from the perspective of a Commissioner of the Australian Competition and Consumer Commission (ACCC) with particular responsibility for telecommunications. ACCC Commissioners are not concerned with what are perhaps the most talked-about regulatory issues concerning the Internet, viz sex and taxes – at least not in their professional capacity. Rather, the ACCC has responsibilities for safeguarding the competitive process and for consumer protection from unfair trading practices, as explained later in this paper. Therefore, the focus here is not on the content of material provided over the Internet except insofar as it raises issues of misleading or deceptive conduct. Other regulators may welll be interested in content issues from perspectives of its cultural significance, whether or not it is obscene or offensive and so on.

Does the Internet raise new regulatory issues?

In the context of competition and consumer protection, the Internet presents substantial opportunities and threats. The opportunities are in the main from the huge capabilities of the Internet in providing access to information and in expanding global electronic commerce. The threats derive from the distance over which Internet transactions typically take place and the potential for anonymity.

The sheer importance and magnitude of the benefits from the Internet mandate that monopolisation of the means of providing Internet services cannot be allowed – hence the competition regulator's interest.

The dangers presented by the Internet's potential for new and expanded ways for unscrupulous operators to dupe consumers mean that the consumer protection regulator also needs to be watchful. It should be said, however, that the consumer protection issues relating to the Internet are, by and large, not unique or even new; they are associated with distance selling in general. But the scope for such problems to arise is greatly expanded by the Internet.

Consumer problems in the global marketplace

Before turning to competition among Internet backbone providers, which is the main topic of this paper, it is worthwhile reviewing the sorts of problems consumers may face in electronic commerce using the Internet.

Information deficiencies
Consumers are unable to examine goods before ordering, to inspect the workplace and meet the staff of an Internet merchant, or to ask questions face to face.

After sales difficulties
Failure to supply goods and services, unsatisfactory goods and services, and returning merchandise can all pose problems for consumers.

Fraud and unethical conduct
The Internet provides new and expanded ways to defraud or deceive consumers. Detection of such practices may be difficult.

Payment systems
The usual issues of loss, errors, poor records and audit trails and allocation of liability can all reach new heights with electronic commerce.

Privacy
How consumers are approached by merchants over the Internet is an important privacy issue, as is how information about consumers, gained over the Internet, is used.

To reiterate, most of these problems are not new. On the other hand, the benefits available through Internet services are beyond question.

Competition regulation of telecommunications in Australia

In Australia, competition regulation of telecommunications takes place under the federal *Trade Practices Act 1974*. (The Commonwealth Constitution gives the federal level of government exclusive power in telecommunications matters. State governments' involvement is through peripherally related matters such as the impact of local planning controls over sites for telecommunications facilities).

The Trade Practices Act prohibits certain restrictive trade practices such as exclusive dealing, price-fixing, anti-competitive mergers and misuse of market power. It also prohibits misleading or deceptive conduct and has a range of other provisions dealing with consumer protection, eg product safety and product information. All these provisions are of long standing.

Until July 1997, as in most countries, Australia had a telecommunications regulator responsible for issues such as licensing and interconnection, although there were only two fixed line carriers and three mobile carriers. Since July 1997 the (newly constituted) telecommunications regulator is responsible for licensing, the universal service obligation, technical standards and certain other matters, but not for the competition regulation of telecommunications. Rather, telecommunications specific provisions have been inserted in the *Trade Practices Act* to deal with anti-competitive conduct (supplementing the already existing prohibition on misuse of market power), and to set up an access regime.

This means that competition regulation of telecommunications is the responsibility of the general competition regulator, but that the regulator has new, telecommunications-specific powers. This agency, the Australian Competition and Consumer Commission, thus has both a law enforcement role and a regulatory role in respect of telecommunications (and other utilities).

Anti-competitive conduct in telecommunications

The new provisions in the *Trade Practices Act* relating to telecommunications include a definition of anti-competitive conduct:

> *"A carrier or carriage service provider* ***engages in anti-competitive conduct*** *if the carrier or carriage service provider:*
>
> - *has a substantial degree of power in a telecommunications market; and*
> - *takes advantage of that power with the effect, or likely effect, of substantially lessening competition in that or any other telecommunications market."*

The Act prohibits a carrier or carriage service provider from engaging in such anti-competitive conduct. This is called the Competition Rule. This new prohibition supplements and is somewhat similar to the existing, generally applicable prohibition of the misuse of market power, s.46. The major difference is that s.46 requires an anti-competitive purpose while the Competition Rule is stated in terms of effect.

As with the other prohibitions against restrictive trade practices in the Act, the ACCC can seek pecuniary penalties from the courts for contraventions and can also seek injunctions. The court can also make orders for compensation.

Because court processes are sometimes slow, a further power was given to the ACCC to deal with anti-competitive conduct. The ACCC can issue a competition notice which alleges a breach of the Competition Rule (ie alleges anti-competitive conduct) and sets out the particulars of the breach. If the target of the notice is subsequently found by the court to have in fact contravened the Competition Rule, the court can order a penalty of up to $10 million plus up to $1 million for each day that the conduct continued while the notice was in force.

Obviously, the potential penalty could be very high if the conduct continued while a lengthy trial process was played out. The theory is that a target of a competition notice would not risk such a large penalty and, to avoid it, would cease its alleged conduct immediately the notice was issued (or came into force, which can be stated to be at a date later than the date of issue). Thus, a competition notice is expected to have the effect of a "cease and desist" order.

In any discussion of the ACCC's powers to act against anti-competitive conduct in telecommunications, it should be noted that the new provisions of the *Trade Practices Act* also establish a framework for regulation of access to services provided using telecommunications infrastructure. This access regime is in many respects a more important means of dealing with issues of market power in the network environment of telecommunications. The access regime has impacts on industry structure and how industry players interact.

The Internet Competition Notice

In May 1998 the ACCC issued a competition notice against Telstra in respect of Telstra's conduct regarding Internet backbones services. This was the first competition notice to be issued under the new provisions of the *Trade Practices Act*. The background was that three Internet backbone providers complained that Telstra was acting anti-competitively by charging them for carrying traffic over its backbone while refusing to pay them for carrying its traffic over their backbones.

Elements of anti-competitive conduct

From the definition of antic-competitive conduct cited above, it can be seen that there are four elements to an allegation of anti-competitive conduct in telecommunications:

- market definition, including the market in which the target has substantial market power and the market in which the conduct has its effect;
- market power, which must be substantial;
- the taking advantage of market power, which the courts have interpreted to mean no more than the use of that power; and

- the effect or likely effect of substantially lessening competition.

These elements are well-established terms of art in Australian trade practices law. Any competition notice will deal with the individual elements and set out their particulars. For the Internet competition notice, the following issues are worth mentioning.

Market definition

The relevant part of the Internet industry comprises Internet Service Providers (ISPs) and Internet Access Providers (IAPs). ISPs provide access to the Internet for end-users. An end-user dials up his or her ISP to be connected to the Internet. IAPs provide transmission services among other IAPs and to ISPs. IAPs operate what are called backbones. Typically, an IAP is also an ISP. That is, it not only provides wholesale backbone services to other IAPs and to ISPs; it also has its own end-user subscribers.

It was found helpful to define Access Provider Services as services providing for access to and the transmission of Internet protocol-based data by means of carriage services by and between IAPs, and by and between IAPs and ISPs.

Key market facts

A few points stand out about access provider services:

- ISPs need access provider services. If an end-user seeks access to a website outside his or her ISP's network, the ISP can only provide that access by using access provider services provided by an IAP.
- Interconnection between IAPs is essential so that each end-user has access to all websites.
- The terms and conditions of interconnection between IAPs affect ISPs. Because ISPs need to be connected to IAPs and IAPs need to be connected to each other, the prices charged among IAPs for access provider services influence the prices IAPs charge ISPs and hence the prices ISPs charge end-users.

Market power

In the competition notice, the ACCC alleged that Telstra had substantial market power in the market for access providers services. As a vertically integrated ex-monopolist carrier, Telstra operates in all or virtually all telecommunications markets offering a full range of services at the wholesale and retail level. Through its Internet arm, Telstra has substantially greater Internet reach than any other firm in Australia.

Whether measured by the amount of content or its websites, geographic spread, number of ISPs connected to it or volume of traffic, Telstra is the largest IAP in Australia.

Telstra's competitor IAPs need Telstra more than it needs them. The larger the amount of content, number of ISPs and number of end-users on an IAP's network, the less likely it is that each of those end-users will generate traffic external to that IAP's network. Telstra is thus closer to being self-sufficient (in terms of Internet traffic internal to Australia, although it also carries most of the traffic between Australia and other countries) than any other IAP.

This position of market power is exemplified by the fact that Telstra was able to charge other IAPs for carrying their traffic while not paying them for carrying its traffic.

Taking advantage of market power

This conduct constituted the taking advantage of market power. The existence of substantial market power and the taking advantage of it came together in the facts that Telstra behaved as it was alleged to do and was able to get away with it. Other IAPs could not refuse to deliver traffic to Telstra, despite not being paid to do so, for fear of being cut off. Similarly, they could not refuse to pay Telstra for carrying its traffic for fear of being cut off. These competitor IAPs could not afford to be cut off from Telstra's IAP network because their customers demand access to the large amount of content on the large number of websites on Telstra's network. These IAPs feared that, if they lost the ability to maintain access by their customers to this content, they would lose the customers (to Telstra).

If Telstra did cut off another IAP, Telstra's Internet subscribers would lose access to the content held on that IAP's network. Telstra would not cut off an IAP lightly, but because of its greater size, the consequences for its customers ¾ and hence for it ¾ would be less serious than the consequences for the competing IAP and its customers.

Effect of substantially lessening competition

The competition notice alleged that Telstra's conduct raised the costs of its competitors. Their costs were higher because they had to make payments to Telstra while not receiving reciprocal payments. Higher costs hindered Telstra's rival IAP's ability to attract ISPs, end-users and content providers to their networks. This reduced ability to compete against Telstra threatened the viability of at least one of the rival IAPs.

Moreover, this hindrance to the ability to compete acted to deter entry by potential new IAPs.

The ACCC was concerned that, because of the self-sufficiency argument mentioned above, there was a danger that Telstra would obtain a higher and higher share of Australian Internet content, ISPs and end-users, eventually becoming the only ISP.

Impact of the competition notice

Shortly before the competition notice was issued, Telstra reached a reciprocal payment agreement with one of the original three complainant IAPs. The competition notice was stated to come into force one week after its date of issue. During that period, a second reciprocal payment agreement was reached.

Telstra instituted proceedings in the Federal Court to have the competition notice declared invalid on the grounds that it had not been afforded natural justice. Shortly afterwards a

reciprocal payment agreement was reached between Telstra and the last of the three IAPs which had complained about Telstra's conduct.

As a consequence, the ACCC withdrew the competition notice. In the view of the ACCC, its objectives had been achieved. The remedy it had sought, viz the signing of reciprocal payment arrangements among the parties, was in place. Incidentally, the ACCC was not, and did not seek to be, privy to the details of those arrangements.

One way of characterising this episode might be to say that the effect of the competition notice was to redress Telstra's market power. Because of the competition notice, and the threat of substantial pecuniary penalties on Telstra, the other IAPs were put in a position where Telstra more actively and urgently wanted to reach reciprocal payment agreements with them.

It is interesting to contemplate the possibility that one or more of these complainants, armed with the suddenly greater bargaining power given it by the issuing of this competition notice, might have tried to force Telstra into an unreasonable payment arrangement. In that case, and had Telstra raised the matter with the ACCC, the ACCC might have had to become closely involved in the details of a reciprocal payment arrangement and even in the negotiating process. That would have been undesirable, given the primacy of commercial negotiation between parties underlying much of the thinking behind Australia's telecommunications competition regulatory regime.

Competition notices are fairly blunt instruments, as is perhaps most clear when the analogy is made with "cease and desist" orders. The challenge for the ACCC has been to sharpen the blunt instrument. The regulator's aim, when faced with what it considers to be anti-competitive conduct by a powerful incumbent, is often not to have that conduct cease in the normal sense, but rather to have the conduct change. In the Internet case the ACCC's objective was for reciprocal payment arrangements to be put in place. However, a competition notice is necessarily stated in terms of what a carrier is doing wrong. Stating what the carrier needs to do to cease being in contravention of the competition rule may involve setting out a whole different course of behaviour and thus be similar to drafting a mandatory injunction.

It is hoped that the outcome of this regulatory intervention will be vigorous competition among Internet backbone providers, and that this will flow through in benefit to end-users. There is encouragement for this hope in the fact that one of Telstra's rival IAPs reduced its wholesale rates by 20 per cent shortly after seeking a reciprocal payment agreement with Telstra. Nevertheless, the ACCC is monitoring the situation.

Liability Issues in Encryption Technology

Liong Lim

Keeping Secrets

Encryption is perhaps the ultimate way to keep secrets.[1] The accepted method of security has been to limit access to information. For example, documents might be placed in a safe with a combination lock, or valuables might be locked in a drawer for which only a few have the key. The disadvantage with such forms of security is that once access is achieved then those secrets are compromised.

Encryption, on the other hand, is a method of security which scrambles information so that only parties with a particular formula can unscramble it. Therefore, even if someone were to obtain access to confidential information, that information would be incomprehensible without the unscrambling formula.[2] Encryption offers this added level of security and accounts for its increased use worldwide.[3]

However, using encryption does not come without problems. What happens when the inevitable occurs and security is breached? It is this point - the legal issues arising out of breaches of encryption - which this paper will deal with. Some of the issues canvassed will be how liability can be determined, whether some standard of care should apply to parties making use of encryption and how the law can keep up to date with developments in technology.

Problems with Existing Legal Discussion

So far, legal discussion about encryption technology has been fairly narrow, focussing mostly on the privacy implications of encryption.[4] Debate has centred around issues such as whether authorities should have the right to inspect encrypted material[5] and the constantly increasing uses for encryption.[6]

There has been very little legal commentary or government regulation which deals directly with the consequences of encryption failing. However, encryption is becoming so central to our current use of technology that this absence of