



ACMA Communications Report 2005-06

ACMA IS A CONVERGED REGULATOR ESTABLISHED ON 1 JULY 2005. IT HAS TAKEN THE PLACE OF THE COMMUNICATIONS AND MEDIA AUTHORITY (ACMA) AND THE AUSTRALIAN BROADCASTING COMMISSION (ABC). ACMA HAS CREATED A NEW REGULATORY FRAMEWORK FOR THE COMMUNICATIONS AND MEDIA SECTOR. IN 2005-06, CONVERGENCE HAS SHAPED CONVERGENCE AND WORKS ITS WAY THROUGH THE COMMUNICATIONS AND MEDIA SECTOR. IT AFFECTS HOW COMMUNICATIONS AND MEDIA IS PRODUCED, DISTRIBUTED AND CONSUMED. THIS CHAPTER OUTLINES THE TECHNOLOGICAL BASIS FOR CONVERGENCE, LOOKS AT THE WAY CONVERGENCE AFFECTS COMMUNICATIONS MARKETS, AND CONSIDERS THE CHALLENGES FOR CONVERGENCE.

THE COMMUNICATIONS AND MEDIA LANDSCAPE IN 2005-06 CONTINUED TO BE SHAPED BY CONVERGENCE. CONVERGENCE HAS SHAPED CONVERGENCE AND WORKS ITS WAY THROUGH THE COMMUNICATIONS AND MEDIA MARKETS. IT AFFECTS HOW COMMUNICATIONS AND MEDIA IS PRODUCED, DISTRIBUTED AND CONSUMED. THIS CHAPTER OUTLINES THE TECHNOLOGICAL BASIS FOR CONVERGENCE, LOOKS AT THE WAY CONVERGENCE AFFECTS COMMUNICATIONS MARKETS, AND CONSIDERS THE CHALLENGES FOR CONVERGENCE.

ACMA'S MEDIA RELEASES PROVIDE A SUMMARY OF THE KEY EVENTS OF 2005-06. THESE ARE SET OUT BY CHAPTER IN THE 2005-06 REPORT. THESE ARE SET OUT BY CHAPTER IN THE 2005-06 REPORT. THESE ARE SET OUT BY CHAPTER IN THE 2005-06 REPORT.

© Australian Communications and Media Authority 2006

ISSN 1834-1519

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be produced by any process without prior written permission from the Australian Communications and Media Authority.

Requests and enquiries concerning reproduction and rights, and any enquiries arising from the contents of the report should be addressed to:

Manager Review and Reporting
Australian Communications and Media Authority
PO Box 13112 Law Courts
Melbourne VIC 8010
Telephone: (03) 9963 6800
Facsimile: (03) 9963 6899
Email: communications.report@acma.gov.au

This report is available on the ACMA website at www.acma.gov.au/CommsReport

ACMA Communications Report 2005-06

© Australian Communications and Media Authority 2006

ISSN 1834-1519

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be produced by any process without prior written permission from the Australian Communications and Media Authority.

Requests and enquiries concerning reproduction and rights, and any enquiries arising from the contents of the report should be addressed to:

Manager Review and Reporting
Australian Communications and Media Authority
PO Box 13112 Law Courts
Melbourne VIC 8010
Telephone: (03) 9963 6800
Facsimile: (03) 9963 6899
Email: communications.report@acma.gov.au

This report is available on the ACMA website at www.acma.gov.au/CommsReport



Australian Government
**Australian Communications
and Media Authority**

Level 15 Tower 1 Darling Park
2011 Sussex Street Sydney NSW

Tel: (02) 9334 7700, 1800 226 667
Fax: (014) 9444 7799

PO Box 2100
Queen Victoria Building NSW 1230

www.acma.gov.au

Senator the Hon. Helen Coonan
Minister for Communications, Information Technology and the Arts
Parliament House
Canberra ACT 2600

Dear Minister

I am pleased to provide you with the *ACMA Communications Report 2005–06*, which replaces the Telecommunications Performance Report.

This publication incorporates a report on telecommunications performance for 2005–06, prepared in accordance with section 105 of the *Telecommunications Act 1997*. It further includes a report on industry's efforts to place aerial cables underground, which was prepared pursuant to clause 50 of Schedule 3 to the *Telecommunications Act 1997*.

The statutory reporting obligations under the *Telecommunications Act 1997* are fulfilled in the following chapters of the Communications Report:

- 105(3)(a) and (b) which relate to the efficacy of supply of telecommunications services and the adequacy and quality of such services and billing information: Chapters 4–8 and 10;
- 105(3)(c) and (d) which relate to carrier and carriage service provider obligations under Part 6 of the *Telecommunications Act 1997* with respect to industry codes and standards: Chapter 4;
- 105(3)(e) and (ea), 105(4) and 104(5) which relate to industry performance in fulfilling universal service obligation, Customer Service Guarantee and digital data capability obligations: Chapter 5;
- 105(5A) which relates to the operation of Part 14 (national interest matters) and Part 15 (cooperation with agencies): Chapter 7; and
- Clause 50, Schedule 3, which relates to progress in the placement of telecommunications facilities underground: Chapter 7.

Please note that subsection 105(7) of the *Telecommunications Act 1997* requires that you table the report in each House of the Parliament within 15 sitting days of that House after receiving the report.

Yours sincerely

Chris Chapman
Chairman

30 October 2006

Acknowledgments

The *ACMA Communications Report 2005–06* draws on data from a range of sources including ACMA's own databases, information reported by industry, ACMA's research using third-party public sources, and commissioned surveys and analysis.

ACMA has a statutory reporting obligation to collect data from industry for monitoring and reporting purposes. One of the recommendations of the *Rethinking Regulation: Report of the Taskforce on Reducing the Regulatory Burdens on Business* of 31 January 2006 was that the reporting requirements placed on industry under section 105 of the *Telecommunications Act 1997* should be reviewed to ensure their continued relevance.

The data requested for the 2005–06 financial year has been reviewed and substantially rationalised as part of ACMA's response to the government's regulation reform agenda.

ACMA is pleased to observe that the telecommunications industry has responded positively to ACMA's streamlined 2005–06 data request, with 100 per cent of companies responding to the questions asked. ACMA will continue to work with industry participants to identify opportunities to streamline regulatory reporting arrangements.

Disclaimer

The information in this document was obtained from sources ACMA believes to be reliable. However, ACMA does not guarantee the accuracy, completeness or adequacy of the information. To the maximum extent permitted by law, ACMA is not liable for any errors, omissions or inadequacy in the information, or for any reliance on the information.

Predications and forward-looking statements in this document are based on information existing and known at the time of publication, and are subject to risks, uncertainties and changes in circumstances beyond the control of ACMA. Opinions and positions stated in this document are subject to change without notice.

Comments

ACMA welcomes feedback on the Communications Report. Comments and enquiries about the scope, content and format of the report should be sent to communications.report@acma.gov.au.

Further information

For further information about ACMA and links to the Communications Report, please go to www.acma.gov.au/CommsReport.

Contents

Chairman's foreword	7
Executive summary	8
Current environment	19
1 Communications environment 2005–06	20
Technological convergence	21
Convergence and consumers	22
Convergence and markets	24
Key indicators – at a glance	26
Communications participants	33
2 Consumers and audiences	34
Usage statistics	35
Technology adoption segmentation	41
Young adult market	44
3 Industry	50
Telecommunications industry	51
Broadcasting industry	74
Subscription television industry	89
4 Industry compliance and consumer satisfaction	92
Telecommunications codes and compliance	93
Industry compliance with telecommunications codes	94
Consumer satisfaction with telecommunications services	98
Broadcasting industry codes	100
Consumer satisfaction with broadcasting services	101
Consumer benefits	105
5 Communications services	106
Geographic distribution of services	107
Regulated availability of services	112
Access to services for people with disabilities	127
Enhanced communications services	131
6 Personal protections	142
Balancing personal privacy with social interests	143
Emergency and priority needs services	147
E-security and unsolicited communications	154
Fostering a safer online environment	158
7 Community and social interests	166
Communications infrastructure regulation	167
Electromagnetic emission regulation	169
Supporting law enforcement	171
Protecting national information infrastructure	176

8	Services in remote Indigenous communities	180
	Access to telecommunications services in remote Indigenous communities	181
	Access to broadcasting services in remote Indigenous communities	183
	Government initiatives for communications services in remote Indigenous communities	185
	Performance of services in remote Indigenous communities	185
9	Broadcasting—reflecting Australian identity and cultural diversity	192
	Australian content on television	193
	Local information on regional television	201
	Australian music on commercial and community radio	201
	Access to sports and special events programs	203
10	Economic benefits resulting from changes in telecommunications services	206
	Developments in the telecommunications sector	208
	Estimating benefits from telecommunications services	215
	Emerging environment	223
11	Emerging communications issues	224
	Developments in technology	225
	Issues for industry	226
	Issues for consumers	226
	Regulatory issues	227
	Appendixes	230
	Glossary	298
	Index	314

Chairman's foreword

I am pleased to present to you the inaugural Communications Report from the Australian Communications and Media Authority. It offers a comprehensive survey of the Australian communications landscape over the 2005–06 year—a wide-ranging report whose scope reflects the broader interests and enhanced capabilities of the new converged regulator in its first year of operation.

The *ACMA Communications Report 2005–06* replaces the former annual Telecommunications Performance Report, which recorded the telecommunications industry's performance and compliance with statutory obligations. While this new report continues to fulfil ACMA's reporting requirements, it goes further by profiling the telecommunications, internet and broadcasting industries in all their facets, from old media to new media, and from established players in national markets to new players in niche markets.

Based on data aggregated from industry and third-party sources, as well as ACMA's own research, the report tells the story of consumer, industry and government actions and interactions in the communications field throughout the year.

Concerning industry, the report assesses performance, product and service innovation, self-regulation and customer service. It also offers a synthesised assessment of industry performance in terms of protection for the consumer; environmental and social benefits to the community; and cultural and economic benefits to the nation. Concerning consumers, the report examines the products and services they prefer, and how they adopt new technologies. Finally, as we look to the future, the report assesses the immediate challenge for consumers, industry and government.

Perhaps what is most exciting and stimulating about this report is that it explores the emerging dynamics of convergence. It is an historic time, and this report is our first step on the road to mapping and charting the future of communications in Australia.

I commend the Communications Report to you.



Chris Chapman
Chairman



Executive summary

Legislative basis

The *ACMA Communications Report 2005–06* fulfils ACMA’s statutory reporting requirements under the *Telecommunications Act 1997*.

In accordance with the requirements of section 105 of the Telecommunications Act, the Communications Report covers the efficiency of the telecommunications industry’s supply of services, and the adequacy and quality of services and billing information (Chapters 5–8 and 10), industry’s performance on industry codes and standards (Chapter 4) and assesses the industry’s performance in meeting its universal service obligation (USO), Customer Service Guarantee (CSG) and digital data service obligation (DDSO) (Chapter 5).

In accordance with the requirements of Parts 14 and 15 of the Telecommunications Act, it reports on national interest matters and industry’s cooperation with agencies, along with the cost to industry of maintaining interception capabilities (Chapter 7).

As required under clause 50, Schedule 3, to the Telecommunications Act, the report also records industry’s efforts to place telecommunications facilities underground (Chapter 7).

Scope and structure

The scope of the Communications Report is significantly broader than its statutory basis. Alongside assessment of the telecommunications industry, the report provides an overview of the broadcasting industry and its performance in delivering services to audiences and consumers.

The Communications Report is structured into four parts. Part 1 surveys the communications operating environment in 2005–06 in order to set industry’s performance within market and technological contexts.

Part 2 provides an overview of the major groups of participants in the communications environment—consumers and industry—and reports on industry’s performance in self-regulating its relationships with consumers.

In Part 3, ACMA interprets consumer benefits broadly from consumers’ access to regulated and unregulated services; delivery of personal protection such as privacy, security and online safety; benefits that are delivered at a community level, such as environmental and national information infrastructure protections; and services in remote Indigenous communities. The role of broadcasting services in reflecting cultural identity and diversity is considered as a consumer benefit, as are the economic benefits to consumers and the nation arising from telecommunications regulation.

Part 4 of the Communications Report summarises the economic and social effects of communications services in the emerging communications environment, before looking at the issues that consumers, industry and government will face over the next few years.

Communications environment

Technological convergence

Convergence is reshaping industry practice and consumer behaviour, lowering barriers to market entry and increasing the range and choice of services and devices. Key trends include the entry of niche operators into media and communications markets; telecommunications providers supplying content directed at mass audiences and broadcasters interacting with viewers as individuals; the use of new media channels for content distribution by established media companies; and the formation of alliances between long-established and new media companies.

Digitalisation, and the demand for services that it enables, continues to propel the development of the network infrastructure.

Convergence and consumers

Digitalisation, and its counterpoint convergence, have increased opportunities for consumers to create and distribute content; delivered a greater choice of digital devices and greater functionality; enhanced mobile access; and facilitated greater connectivity.

Although many Australians use a range of internet and off-net applications to store and manage their own content and to communicate, they still continue to watch television, listen to analog radio and use fixed-line telephone services.

Convergence and markets

Traditionally discrete market sectors are merging as the barriers between them break down, with multiple services transported and delivered on each platform, and single devices delivering multiple functions.

Convergence is manifest in service models such as bundling of telephony, internet and subscription television services and in business structures such as industry alliances and mergers. Conversely, tools that give consumers control over when, where and how they consume media are also causing audiences to fragment in the new communications environment.

Consumers and audiences

Usage statistics

The progressive release of new technologies and standards has seen the accelerating take-up of communications services by Australian consumers. In 2005–06, digital television uptake reached 20 per cent. Approximately 63 per cent of households have internet access and a third have broadband internet connections. Nearly 80 per cent of Australians own a mobile phone, with eight per cent owning a 3G handset. Australians are using the internet for email (66 per cent); shopping, paying bills and online banking (40 per cent); and socialising and entertainment (45 per cent).

Technology adoption segmentation

The majority of Australians (72 per cent) use mobile phones and the internet in the home, this group constituting the ‘early’ and ‘late majority’ adopters of technology. The ‘non-adopters’ do not use mobile phones or the internet at all, and comprise 12 per cent of the population. At the other end of the scale, the ‘innovator’ and ‘early adopter’ groups use voice over internet protocol (VoIP) and have a broadband connection. They comprise 16 per cent of the population.

Young adult market

Young adults, the first generation to grow up with the internet, are the most comfortable with the pace of technological change. Innovator and young adult behaviour offers a glimpse of future trends in the Australian consumer market. Within the 25–34 years age group, 50 per cent use their mobile more than their home phone. Mobile phone ownership is at 90 per cent, compared to 53 per cent for those who are 65 years and over.

Industry

Telecommunications industry

At 30 June 2006, there were 157 licensed telecommunications carriers and 1,170 carriage service providers were registered with the Telecommunications Industry Ombudsman (TIO). VoIP services expanded from the large business and corporate sector and embraced the residential market as the number of providers rose from around 25 in 2004–05 to approximately 170 in 2005–06.

The retail market share across the fixed-line and mobile services telephony markets continues to become more evenly distributed among the major carriers, while Telstra retains the largest share of revenue.

Demand for fixed-line phone services is continuing to decline as mobile call charges drop, consumers substitute mobile phones for fixed lines and broadband internet provides consumers with alternative communication options such as VoIP, email and instant messaging.

At 30 June 2006, there were approximately 11.26 million fixed-line telephone services in operation, 19.76 million mobile services and 5.95 million internet subscribers. Non-dial-up (broadband) subscriber numbers rose 82 per cent in 2005–06 to 3.1 million or 53 per cent of the total internet subscriber base. Dial-up subscriber numbers fell nine per cent to 2.8 million or 47 per cent of the total internet subscriber base.

Broadcasting industry

In comparison to the telecommunications industry, the broadcasting industry structure is relatively stable.

Television broadcasting revenue increased but profits decreased overall in both metropolitan and regional markets. Total program expenditure by commercial television licensees increased by 15.9 per cent in 2004–05 to \$1,163.4 million.

Advertising expenditure on free-to-air television grew by 2.4 per cent in 2005 to \$3.4 billion despite a continuing decline in the number of free-to-air television viewers resulting from the proliferation of competing forms of media.

Radio broadcasting revenue and profits increased overall in both metropolitan and regional markets, and advertising expenditure grew by 6.6 per cent in 2005 to \$897 million.

Industry compliance and consumer satisfaction

Levels of compliance with industry codes and consumer satisfaction are two measures used by ACMA to assess the performance of the communications industry.

Telecommunications codes, industry compliance and consumer satisfaction

Complaints about telecommunications services to both the Australian Competition and Consumer Commission (ACCC) and the TIO increased in 2005–06, by 16.4 and 26.4 per cent respectively. However, when surveyed, more than 80 per cent of consumers were satisfied that their service provider had either ‘met’ or ‘exceeded’ their expectations. The highest satisfaction levels were for long-distance telephone companies (82.2 per cent) and the highest ‘exceeded expectation’ level (11.2 per cent) related to internet service providers.

While complaints to the TIO relating to Australian Communications Industry Forum (ACIF, now the Communications Alliance) codes increased by 205 per cent, reflecting in part the TIO’s changed information-gathering processes, the number of confirmed ACIF code breaches increased by 16.8 per cent. Forty per cent of complaints related to complaint handling.

Complaints about premium rate telephone services resolved by the Telephone Information Service Standards Council (TISSC) decreased by 31 per cent in 2005–06, to 339 breaches of the industry code of practice.

Broadcasting codes, industry compliance and consumer satisfaction

ACMA received 578 telephone complaints and 737 written complaints about broadcasting services in 2005–06. Of the 142 investigations ACMA completed during the year, 76 per cent found that no breach had occurred.

Compliance by metropolitan commercial television licensees with the Australian Content Standard and the Children’s Television Standards was high in 2005, with all but one licensee meeting the requirements. ACMA research shows that 68 per cent of households are either ‘very satisfied’ or ‘somewhat satisfied’ with free-to-air services in terms of the choice of channels and program quality available.

Communication services

Geographic distribution of services

In 2005–06, voice services and 64 kbit/s data services are accessible to Australians wherever they reside or carry on business.

Service coverage in Australia is 100 per cent for satellite voice and broadband, free-to-air television broadcasting (analog terrestrial and satellite), analog radio broadcasting (commercial and/or national) and subscription broadcasting (cable or satellite). GSM mobile phone coverage reaches 96 per cent of the population, CDMA mobile phone 98 per cent and 3G mobile phone 53 per cent. Service coverage by ADSL-enabled exchanges is at 88 per cent, with wireless broadband available in some metropolitan and regional areas.

Regulated availability of services

The subsidy for the cost of supplying the USO in 2005–06 was determined to be \$171 million.

In 2005–06, the number of payphones in Australia decreased by 5.7 per cent to 58,230. Nationally, payphone fault repair times improved slightly during the year, with Telstra repairing 89 per cent of payphone faults within required time frames.

Telstra met its general DDSO, providing basic rate ISDN services to more than 97 per cent of the population in 2005–06. Six of the nine special DDSO connections requested were provided within the target time frames.

Performance of carriage service providers in meeting CSG connection, fault repair and appointment performance standards remained very high, with most major providers achieving performance well over 90 per cent in 2005–06. The reported number of telephones covered by the CSG standard declined 2.8 per cent, to 8.71 million in 2005–06, consistent with the estimated reduction in fixed-line services over this period.

Access to services for people with disabilities

The number of calls to the National Relay Service, which enables people with a hearing or speech impediment to access a standard telephone service, increased marginally in 2005–06, while the volume of call minutes decreased.

The Australian Broadcasting Corporation (ABC) and the commercial free-to-air television networks reported that between 57 and 62 per cent of television programming was captioned in 2005, with the Special Broadcasting Service (SBS) reporting 76 per cent of captioned programming. These percentages are in line with the requirement that commercial and national broadcasters caption 55 per cent of programming (broadcast between 6.00 am and midnight) by the end of 2005, rising to 70 per cent by the end of 2007.

Enhanced communications services

The 2005–06 year saw mobile carriers expand their 3G services, with 3G becoming available to approximately 53 per cent of the population. The rollout of broadband infrastructure and the digitalisation of broadcasting services continued.

The Australian Bureau of Statistics (ABS) reports that broadband subscriber numbers reached 3.1 million in June 2006. The ACCC reports that ADSL provides 72.5 per cent of broadband connections and hybrid fibre coaxial cable 16.9 per cent. The use of wireless broadband access increased, recording growth rates of more than 30 per cent for the last quarter of 2005 and the first quarter of 2006.

Rollout of digital television transmission facilities now includes all cities and major regional centres. During 2005–06, the government announced that switch-over from analog to digital television would occur between 2010 and 2012 and also released the policy framework for the introduction of digital radio. About 85 per cent of the population has access to the digital broadcast simulcast of the analog television services, and more than 95 per cent of the population has access to at least one free-to-air broadcaster's digital service. Approximately 20 per cent of Australian homes have equipment for receiving digital television broadcasts, for example, set-top boxes. Subscription television is well advanced on the path to fully digital transmission.

Personal protections

Balancing personal privacy with social interests

Allowable disclosures of personal information by carriers and carriage service providers under the Telecommunications Act have been increasing. However, disclosures in most categories decreased marginally in 2005–06. The exception was the number of disclosures made with the knowledge or consent of the person concerned, which rose by 77 per cent to 133,765. The largest number of disclosures was made to support law enforcement activities.

Emergency and priority needs services

In 2005–06, calls to the emergency service numbers 000 and 112 increased by seven per cent over 2004–05, with 63 per cent being made from mobile phones. Telstra continued to perform above the legislated requirement for emergency call answering, with 96.9 per cent of all calls answered within five seconds and 98.9 per cent answered within 10 seconds.

Genuine emergency calls to the text-based emergency call service number 106, for people with a hearing or speech impediment, increased slightly in 2005–06. The Australian Communication Exchange (ACE), which provides the service, continued to exceed its performance targets answering at least 99 per cent of calls within 10 seconds. A high proportion of calls made were non-genuine emergency calls, largely a result of callers misdialling geographic or special services numbers.

E-security and unsolicited communications

In 2005–06, ACMA successfully prosecuted Clarity1 Pty Ltd and its managing director for breaches of the *Spam Act 2003*. In June 2006, the government review of the *Spam Act 2003* found that the Act has proved effective, with Australia having dropped from tenth to twenty-fifth on the list of spam-relaying nations. ACMA received a total of 2,133 formal spam complaints in 2005–06, with 84 per cent relating to email and 16 per cent to SMS spam.

ACMA has been involved in three key initiatives relating to e-security and unsolicited communications:

- On 7 November 2005, ACMA launched the Australian Internet Security Initiative to reduce the number of computers used to commit online crimes such as hosting illicit material and spamming.
- On 30 May 2006, ACMA launched its SpamMATTERS reporting and forensic analysis program, which allows consumers to simultaneously delete spam and report it to ACMA.
- In June 2006, the government passed legislation to establish a Do Not Call Register scheme allowing individuals to register their telephone numbers to opt out of receiving most unsolicited telemarketing calls.

An April 2006 audit of the 24 largest internet service providers, which account collectively for 85 per cent of Australian internet subscribers, found all of them to comply fully with three registered industry codes of practice that assist end-users to manage access to online content for themselves and their children.

Fostering a safer online environment

During 2005–06, ACMA completed 638 investigations arising out of complaints about internet content. Of these, 422 resulted in location of content that was prohibited, or potentially prohibited, under the *Broadcasting Services Act 1992*. A further 724 prohibited or potentially prohibited items of internet content were also located. ACMA issued final ‘take down’ notices for 18 items of Australian-hosted prohibited internet content and referred 706 overseas-hosted prohibited or potentially prohibited items to the makers of internet software filters.

Community and social interests

Communications infrastructure regulation

In 2005–06, 45 complaints were made to ACMA about the installation of low-impact telecommunications facilities by licensed telecommunications carriers, less than half the number of complaints received in 2004–05. There was a slight increase in the number of complaints received by the TIO for the same period, from 498 to 507.

Supporting law enforcement

In the 2005–06 reporting year, there was a slight reduction in the number of requests and a continuing trend towards certified rather than uncertified disclosures.

The cost to industry of maintaining telecommunication interception capabilities for use by law enforcement and national security agencies was \$5.7 million in 2005–06, continuing a downward trend from \$11.2 million in 2001–02.

Services in remote Indigenous communities

People living in Indigenous communities in remote areas of Australia have special needs for the provision and maintenance of communications services.

Access to telecommunications services in remote Indigenous communities

Of the communities reported on by Telstra over the 2006–06 period, 58 per cent have access to at least one standard telephone service, 53 per cent have access to at least one payphone, 14 per cent have access to at least one community phone and 27 per cent have terrestrial mobile coverage. Communities with fewer than 50 members are more likely to have limited access to telecommunications, with more than half the communities without payphone or standard telephone access having fewer than 20 members.

Payphone performance in remote Indigenous communities

During 2005–06, Telstra’s payphone fault repair performance in Indigenous communities was comparable to its performance in remote areas as a whole, with 68 per cent of all faults on Telstra-operated payphones repaired within the required three working days and 85 per cent repaired within six working days.

Access to broadcasting services in remote Indigenous communities

At June 2006, there were 160 licensed Remote Indigenous Broadcasting Services in remote Indigenous communities throughout Australia—80 television broadcasting licences and 80 radio broadcasting licences.

Broadcasting – reflecting Australian identity and cultural diversity

Australian content on television

The television broadcasting industry fully complied in 2005 with regulatory measures aimed at developing and reflecting a sense of Australian identity, character and cultural diversity, with one exception (see below).

Expenditure by commercial television licensees on Australian programs in 2004–05 (the most recent data available) was \$812.8 million, an increase of 20.5 per cent over 2003–04, with Australian programming representing 70 per cent of licensees' total programming expenditure. Compared to 2003–04, expenditure on Australian documentary programs increased by 309.1 per cent to \$9.2 million, expenditure on children's programs increased by 80.7 per cent to \$21.5 million, while expenditure on Australian drama decreased by 1.4 per cent to \$113.8 million.

In 2005, all metropolitan commercial network licensees exceeded statutory requirements to broadcast an annual minimum of 55 per cent Australian programming between 6.00 am and midnight. All licensees met or exceeded the minimum annual sub-quotas, except one licensee who fell short by half an hour of children's programming.

All stations exceeded the requirement that at least 80 per cent of advertisements broadcast between 6.00 am and midnight be Australian-produced. Foreign advertising continues to average well under the allowable 20 per cent per year.

Subscription television drama services continued to spend at least 10 per cent of their total program expenditure on new Australian or New Zealand drama programs. However, an increasing percentage of this obligation is being acquitted in the year after it is incurred.

Local information on regional television

Regional television licensees in the regional Queensland, New South Wales and Victoria markets have met the regulatory quotas for the broadcast of a minimum amount of programs about matters of local significance.

Access to sports and special events programs

At 30 June 2006, a total of 30 event categories of national significance were on the anti-siphoning list to allow for the events to be broadcast on free-to-air television.

Economic benefits resulting from changes in telecommunications services

Estimated benefits during 2005–06 flowing from changes in the telecommunications sector include additional production in the Australian economy worth around \$2.5 billion, economic benefits of around \$1.9 billion in household consumption and more than \$440 million in business operating surpluses, the creation of approximately 17,550 additional jobs and more than \$660 million in additional investment.

Developments in the telecommunications sector in 2005–06

Important developments in 2005–06 included the increase in the number of broadband subscribers, significant growth in internet data volumes, internet consumers switching from dial-up to broadband services, and the increasing regional availability of ADSL broadband.

The mobile sector also grew strongly as call minutes and SMS volumes increased, while average call costs for both continued to fall. Traditional fixed-line call volumes declined, as did overall revenues and network utilisation. The greatest migration is from fixed-line services to mobile services, although the continuing high growth of broadband suggests that internet-based communications services are also being used as alternatives.

Emerging communications issues

Developments in technology

The emerging communications environment is characterised by growth, new technological developments, increased competition and changes to market structures and business models.

Development of new products and services, and improvements to IT systems and software, such as computer processing power, coding techniques and compression software, are rapid and ongoing.

Issues for industry

Industry faces new challenges, with both new and incumbent operators competing and merging in order to develop content, services and business models that provide viable revenue streams. Traditional media organisations have extended their commercial interests into new media, while new entrants compete against the incumbents' established customer bases, content sources and revenue streams as free content proliferates on the internet.

Issues for consumers

Consumers face a number of challenges including selecting from many products and pricing plans as platforms and services multiply; retaining privacy of their personal information and communications security; and ensuring their children's safe access to services. These challenges will be most pronounced in communities that have low levels of media literacy. Consumers are also likely to have to take into account that services delivered by internet protocol-based applications may have characteristics that differ from traditional voice and video services.

Regulatory issues

Government faces the challenge of administering a regulatory framework that is responsive to emerging technological developments while allowing emerging services, industry development and competitiveness to grow. At the same time, government must also maintain services that are in the public interest, such as emergency call service access, law enforcement and national security arrangements over IP-based networks; privacy and security safeguards; content standards over internet video-streaming and television; and informing consumers about communications technologies and services.

Conclusion

Worldwide, the communications industry is undergoing major change as new technologies are adopted, leading to an increased convergence of services.

The Australian communications industry continued to develop during 2005–06 as new technologies were rolled out. There was strong growth in the use of mobile telecommunications, VoIP, and in consumers' take-up of broadband. The broadcasting industry was relatively static, ahead of new policy announcements for digital broadcasting and media reforms.

The communications industry met the great majority of its regulatory obligations during 2005–06.

The convergence of technologies and services is creating new issues for consumers, industry and regulators as many of the previous boundaries between services are eroded. This is leading to greater choice for consumers, but also new challenges for industry and government.

CURRENT ENVIRONMENT

'The fundamental constant in any discussion in the communications sector today is the pressure for change on every player and stakeholder. Nor is the regulator immune.'

Chris Chapman

ACMA Chairman

Regulating a mobile telecommunications industry

Speech to the Mobile Telecommunications Conference 06, Sydney 2006

1 Communications environment

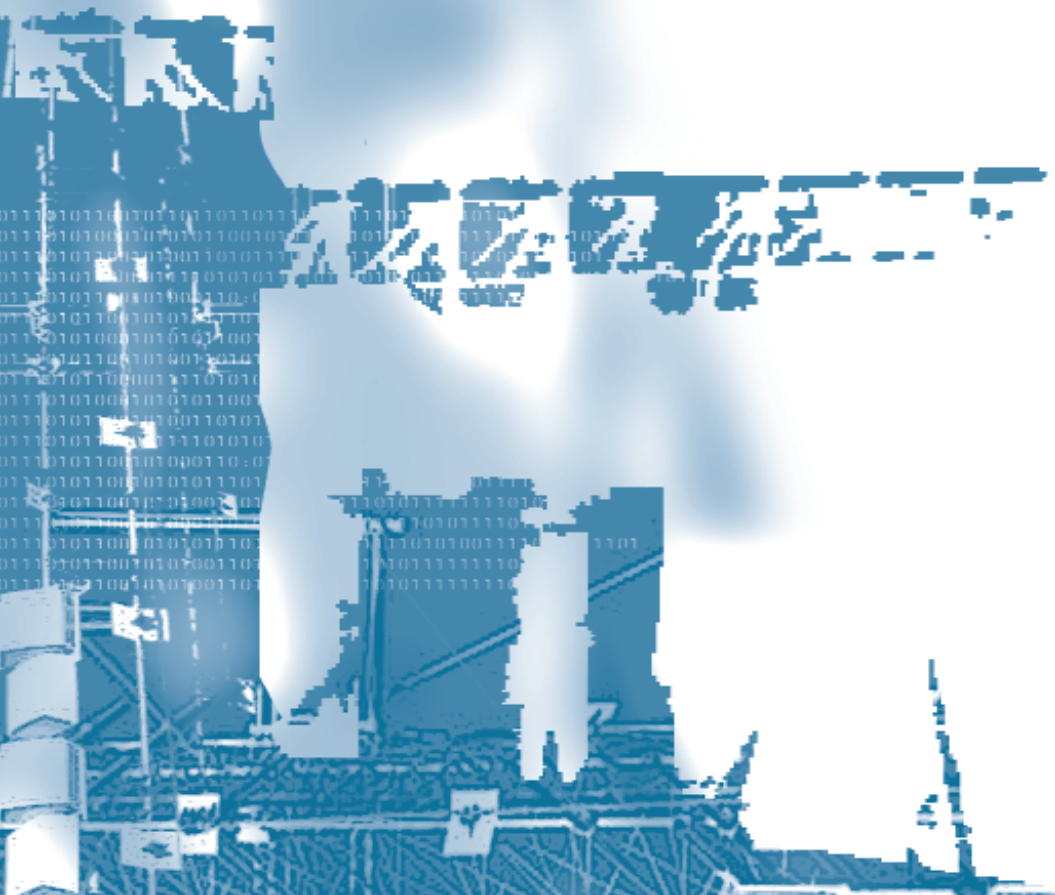
Overview

ACMA is a converged regulator. Established on 1 July 2005 by the merger of the telecommunications and broadcasting regulators, ACMA was created to effectively deal with the regulatory challenges posed by convergence.

The communications and media landscape in 2005–06 continued to be shaped by convergence. As digital convergence matures and works its way through the communications and media markets, it affects how commerce is transacted, people communicate, social and business networks function, and how content and media are produced, distributed and consumed.

This chapter outlines the technological basis for convergence, looks at the way convergence is affecting consumers, devices and applications, and considers convergence in communications markets.

ACMA's media releases provide a window onto some of the major events and trends in the communications environment in 2005–06. These are set out by theme in Appendix 1.1.



Technological convergence

Convergence has been gathering pace over the last decade as the digitalisation of aural, visual, and text information has spread and as communications platforms progressed to digital technology. In essence, digitalisation reduces all data to bit streams that can be stored; manipulated for combining with other bit streams, divided into smaller components or otherwise modified; and transported in a manner that is indistinguishable from other bit streams.

By 2005–06, most communication platforms have been fully digitalised or are in the process of being converted. As this change continues to mature, existing networks are acquiring the capability to deliver material they traditionally could not handle efficiently. Platforms are evolving the capacity to carry new and varied forms of content that are not conventionally associated with them:

- the copper voice network carries broadband services;
- the subscription television network is offering interactivity; and
- mobile services now deliver content previously associated with broadcast television and free-to-air broadcasters interact with their viewers via the web, short message service (SMS) and mobile phones.

The only mainstream broadcasting platform to remain analog-only is radio. In recognition of increasing competition from digital platforms such as the internet and mobile phones, the government announced in October 2005 a framework for the introduction of digital radio as a supplement to existing services.¹

Convergence has been characterised by:

- the increasing use of internet protocol (IP) networks with the migration, or convergence, of existing legacy services onto converged voice, video and data platforms;
- the growing availability and take-up of broadband;
- increased computing storage capacity and processor capability;
- enhanced software applications; and
- development of integrated and mobile consumer devices.

In the past, the coupling of platforms to services provided the basis for regulatory segmentation—voice telecommunications, radio and television broadcasting. Over the last decade there has been a proliferation rather than consolidation of network infrastructure, which now includes fibre, digital subscriber line (DSL), satellite, cable, third generation (3G) mobile and wireless data technologies like WiFi or WiMAX. The distinction between platform and service has become blurred since multiple services can now be transported and delivered on each platform. Integrated services digital network (ISDN), which enables internet traffic to traverse networks designed for telephony, was an early example of network convergence.

¹ http://www.minister.dcita.gov.au/media/media_releases/framework_for_the_introduction_of_digital_radio

Various transport technologies can be used to support IP-based networks, with the result that voice, data and content can be delivered on any network that uses standard internet protocols. For instance, voice communication is being delivered across IP-based networks, alongside delivery of audio and video content or data required for commercial transactions.

While the overarching trend is toward converged IP-based networks, a variety of traditional, proprietary and managed network service products persist in the market. Differentiated platforms can be expected to remain for the foreseeable future with particular services aligned to them, such as digital terrestrial television broadcasting and mobile content ‘walled gardens’.

Convergence and consumers

The lower cost of creating and distributing digitalised content and communications is lowering barriers to market entry and resulting in the emergence of new online services and environments. The consequences of convergence for consumers can be seen in increased opportunities for communication and participation in the creation and distribution of content, greater choice of digital devices, and the availability of diverse applications and content.

Ironically, while network platforms and services are converging and barriers to service delivery are declining, convergence is resulting in a fragmentation of audiences as consumers take advantage of the greater choices that convergence bestows.

Increased opportunities for communication

The cost of email and instant messaging is typically nil for people who have already paid for or have access to an internet connection. While email is now a standard form of communication, communications involving all parties simultaneously are increasing as costs have fallen and ease of use improved. For example, instant messaging (IM) is a communication tool of choice for Australian teenagers and is being increasingly used by business as feature-rich and secure versions are becoming available.

Lower barriers to entry, especially in content distribution, create opportunities for people to exercise greater choice of content and when, where and how they access or use it. The internet provides tools for consumers to locate, obtain and enjoy content in which they are interested, including:

- **Aggregators**—such as the RSS (really simple syndication) feeder compiles news, blog entries and similar content from internet publication sources. Aggregators can also compile audio or video play lists.
- **Collaborative filters**—match a person’s expressed preferences for music, books or films with those collected from many other users’ ratings or purchases and use the results to make recommendations.

- **Time-shifting**—digitalisation has made time-shifting cheap and easy, particularly when personal digital video recorders are combined with electronic program guides.
- **Place-shifting**—personal media players allow people to transfer music, podcasts, other audio and, more recently, video programming to a handheld device, for use at the place of the consumer's choice.

Tools that give consumers control over content are facilitating the growth of participative media. As a consequence, there has been a significant increase in the production, transfer and consumption of content between individual consumers.

Choice and integration of digital devices

The information and communication technology (ICT) industry is a central participant in the communications market as producer of communications and media devices. Significant trends in consumer devices include:

- proliferation of devices;
- continued improvements in functionality and capacity;
- large, high-definition displays for home use;
- small, high-resolution screens for mobile viewing;
- device convergence with single devices delivering multiple functions;
- enhanced mobile access to content and communications; and
- greater connectivity between devices and fixed networks.

The current range of devices falls into three broad categories—fixed, portable and mobile—as follows:

- Convergence in fixed devices is moving towards a single device in the home performing the functions of a DVD player and recorder, set-top box, networked gaming console, home network server and personal computer. Additionally, home entertainment networks can digitally connect a range of diverse but interoperable equipment.
- In the portable market, laptop computers with wireless connections have acquired the full functionality of wired personal computer systems.
- Converged mobile devices, such as smart-phones can run multiple applications that combine mobile phones and personal digital assistant (PDA) capabilities, mpeg layer 3 (MP3) players and wireless broadband access. Specialised devices that optimise one function, such as telephony or gaming, can be networked and feature full connectivity between devices.

Diverse applications and content

Even in the converged market, Australians continue to view television, listen to analog radio and use fixed-line voice services on service-specific platforms. However, applications to deliver content over alternative platforms, for example, video and music content on mobile phones and voice services via the internet. Using web-based applications, users can store and manage their own content online directly from multiple websites.

- **Internet applications**—digital technology creates a ‘virtual’ platform of broadband internet connectivity. The web and interconnected devices are emerging as a single platform of re-usable and continuously updated applications, services and data.
- **Off-net services**—off-net applications do not use the broadband internet but offer niche services such as ‘walled garden’ content provided by mobile providers to their customers, and non-internet DSL-enabled internet protocol television (IPTV). Terrestrial digital radio has the potential to deliver services to listeners such as record and rewind, streamed text with news and weather updates, playlist information and still pictures.²
- **Client-server applications**—most commercial online stores use traditional client-server models to optimise digital rights management control to deliver content in formats which consumers can use with popular portable devices.
- **Peer-to-peer applications**—peer-to-peer (P2P) applications are typically decentralised: files are not stored on a central server but exchanged directly between users.

Convergence and markets

Convergence is manifest in the communications and media market in service models such as bundling of telephony, internet and subscription television services and changed business structures that include industry alliances and mergers. However, industry is also experiencing some divergent characteristics such as business diversification, specialisation and the entry of new niche industry participants. So, while the markets for creation, communication and consumption of content and services can be described as convergent, they also exhibit fragmentary and diverse characteristics. The overall effect is one of market dynamism.

The delivery of communications and media services to Australians continues to take place in the context of relatively mature telecommunications and broadcasting industries. These industries are still largely characterised by the ownership and operation of discrete networks comprising a core platform over which specific telephone or broadcast services are delivered.

As the convergent environment continues to develop, formerly discrete market sectors are becoming less distinct and breaking down. This process is bringing different commercial models into direct competition as each becomes capable of delivering the same services.

² http://www.minister.dcita.gov.au/media/media_releases/framework_for_the_introduction_of_digital_radio

Established communications and media market pressures

Telecommunications providers have traditionally generated revenue from facilitating the communications of individuals, originally in telegraphy, then voice and, more recently, messaging. Broadcasters have traditionally generated revenue from advertisers and acted as a bridge to mass audiences. Subscription models interacted more with individuals as customers, but still deliver a more or less mass audience-based experience. All these business models are under varying degrees of revenue pressure and firms are seeking new growth opportunities, including the following:

- Relatively cheap communication costs and ease of digital production and distribution of content are leading to entry of smaller and niche operators into media and communications markets.
- Telecommunications providers are starting to explore provision of content directed at mass audiences, such as mobile or IPTV, while broadcasting industries are increasingly seeking greater interaction and involvement with their viewers as individuals, for example, through SMS voting.
- Established media companies are seeking new channels for content distribution over the internet and on portable and mobile devices.
- Alliances are forming and acquisitions occurring between established media, such as television and radio, newspapers, telecommunications and internet companies, and new media.

Convergent market developments

A number of business models and opportunities are emerging using the broadband-enabled internet.

- At the other end of the scale to mass media are the market opportunities arising from what is known as the ‘long tail’³, which refers to the end of a statistical distribution at which demand for a large range of products or services is typically low. It raises the possibility of achieving a satisfactory commercial return from many very small audiences spread over very many items of content.
- User-generated (or reproduced) and distributed multimedia content and information focuses on personalised experiences shared between friends, family and social online networks. Commercialisation of user-created environments can be achieved through advertising on blog or podcasting services.
- Massive multiplayer online games (MMOG) and virtual worlds, where users create an ‘avatar’ that lives, chats, dates and shops in the online world, are attracting large participant bases while static and dynamic advertising placed within these interactive environments is a rapidly growing market.

How consumers are responding to the choices available to them in the convergent communications environment is discussed in Chapter 2. The profiles of the industry participants who supply consumers with communications and media services are outlined in Chapter 3. Industry performance in satisfying consumer expectations is analysed in Chapter 4, where the role of industry co-regulation and its success in handling consumer complaints is set out. The range of consumer benefits being delivered in 2005–06 is addressed in Chapters 5 to 10.

³ <http://www.wired.com/wired/archive/12.10/tail.html>

Key indicators – at a glance*

Licensed services

Licensed broadcasters¹

	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Aust
Commercial TV ¹	22	14	12	11	8	5	3	4	55
Broadcasting in digital	20	12	10	9	3	3	3	2	48
ABC/SBS TV ¹	2	2	2	2	2	2	2	2	9
Community TV ²	1	1	28	4	15	–	–	34	85
Datacasting ¹	10	3	4	2	4	–	–	–	26
Commercial radio ¹	83	41	66	16	41	13	4	5	274
Community radio ³	98	57	80	29	39	12	6	40	361
Open narrowcast radio ⁴	72	30	74	9	38	3	2	17	245
ABC/SBS radio ¹	23	15	16	10	13	7	6	9	64

¹ As some TV, radio and datacasting services provide coverage into more than one state or territory, the national total may be less than the sum of services in each state and territory.

² Four metropolitan and 79 former Broadcasting for Remote Aboriginal Communities Scheme (BRACS) licences.

³ Long-term licences only.

⁴ Planned in licence area plans.

Radiocommunications apparatus licences, 30 June 2006

Type of licence	No. of licences
GSM 900	6
Fixed	41,301
Land mobile	57,284
Defence spectrum	71
Satellite licence types	614
Non assigned	33,557
Other	15,304
Total	148,140
Telecommunications, 30 June 2006	No.
Licensed carriers	158
Licensed or registered cablers	56,958
Carriage service providers holding numbers	64
Spectrum licences, 30 June 2006	No.
Registered transmitter devices	31,339

* All sources ACMA, except where noted

Telecommunications

Service coverage, 30 June 2006

Services	Coverage	No. of service provider networks
Fixed	100% of population	11 residential fixed voice direct connect providers
Mobile		
GSM	96% of population	3 carrier networks
CDMA	98% of population	2 carrier networks
3G	53% of population	2 networks (shared between 4 mobile carriers)
Broadband		
HFC cable	2.6 million homes	4 carriers with metropolitan and regional centre networks
DSL	88% of population ¹	19 carriers with active DSLAM installations in metropolitan and regional centres
Wireless	Selected metropolitan and regional areas	129 wireless broadband carriers ²
Satellite	100% of population	13 satellite service providers

¹ Telstra media release, 26 April 2006.

² At August 2006, Market Clarity Pty Ltd survey.

Sources: ACMA data request to selected telecommunications carriers, ACMA carrier licensing information and carrier websites, Market Clarity Pty Ltd.

Number of services

(at 30 June, unless noted otherwise)

	2003–04	2004–05	2005–06
Mobile	16.48 m	18.42 m	19.76 m
Fixed voice	11.66 m	11.46 m	11.26 m
Number of payphones	64,803	61,735	58,230
Internet	5.2 m ¹	5.98 m ²	5.95 m ³
Narrowband	4.34 m ¹	4.2 m ²	2.78 m ³
Broadband	0.86 m	1.8 m	3.16 m ³

¹ At 31 March 2004.

² At 31 March 2005.

³ Includes only ISPs with more than 10,000 subscribers.

Telecommunications (continued)

Mobile services

Mobiles	30 June 2006
Mobile services in operation as a proportion of the Australian population	96%
Pre-paid mobile services ¹	9.7 m
Post-paid mobile services ¹	9.6 m

¹ Does not include Telstra, Vodafone or '3' wholesale services.

Messaging services	2005–06
SMS messages sent	10,205 m
MMS messages sent	63.6 m
Mobile numbers allocated	0.5 m

Fixed services

	2003–04	2004–05	2005–06
Geographic numbers allocated by the ACA/ACMA	0.66 m	10.76 m	0.99 m
Services covered by the Customer Service Guarantee	9.33 m	8.96 m	8.71 m

Financial information

Commercial broadcasting services

	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m
Commercial television				
Revenue	3,233	3,451	3,724	4,119
Expenditure	2,822	2,945	3,133	3,542
Net assets	4,044	5,378	5,097	5,821
Licence fees	196	200	225	251.2
Commercial radio¹				
Revenue	730	774	855	947.8
Expenditure	620	666	731	777.5
Net assets	1,157	1,231	1,291	1,409.9
Licence fees	11	16	18	20.3

¹ The 2003–04 figures for commercial radio include non-BSB services.

Financial information (continued)

Radiocommunications apparatus licence fee revenue

Type of licence	Revenue 2005–06
GSM 900	\$61.3 m
Fixed	\$35.3 m
Land mobile	\$16.2 m
Defence spectrum	\$6.8 m
Satellite licence types	\$3.6 m
Non assigned	\$1.6 m
Other	\$1.5 m
Total	\$128.3 m

Spectrum licence auction revenue

Revenue in 2005–06	\$0.1 m
--------------------	---------

Mobile services retail revenue

Revenue in 2005–06	\$9.3 b
--------------------	---------

Source: ACIL Tasman, from carrier data

Universal service obligation subsidy

Total 2005–06	\$171.4 m
---------------	-----------

Telecommunications

	2002–03	2003–04	2004–05	2005–06
Total eligible revenue of carriers	\$22.9 b	\$23.7 b	\$24.1 b	n/a ¹
Revenue from carrier licence charges	\$29.6 m	\$30.4 m	\$34.3 m	\$55.4 m
Consumer benefits from telecommunications competition	\$12.3 b	\$10.4 b	\$12.4 b	\$15.2 b

¹ Data will be available in 2007.

Telephone numbers

Revenue from smartnumbers [®] auctions	\$23 m
Revenue from annual numbering charges	\$60 m

Investigations

Broadcasting

Number of investigations resulting in breaches, by type of service¹

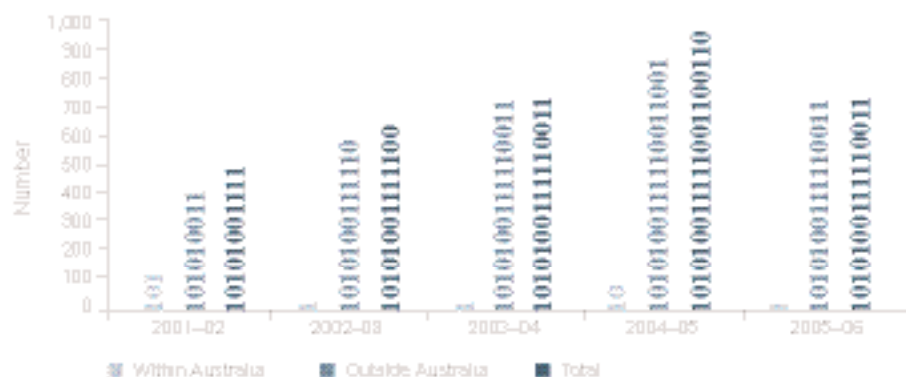
	2002–03	2003–04	2004–05	2005–06
Commercial TV	18	13	32	13
Subscription narrowcast TV	–	–	2	–
Open narrowcasting TV	4	–	–	–
ABC TV	–	1	5	–
SBS TV	1	–	2	–
Commercial radio	2	6	7	3
Community radio	24	6	9	18
Open narrowcasting radio	2	1	–	–
ABC radio	1	–	2	–
Total	52	27	59	34

¹ Breaches of codes of practice and/or licence conditions.

Note: Before 1 July 2005, investigations were conducted by the Australian Broadcasting Authority.

Internet

Prohibited internet content items actioned, by location of content host



Anti-spam update

Australia's position as a 'spam relaying' country (Feb 2004)
– 10th in the world

Australia's position as a 'spam relaying' country (June 2006)
– 25th in the world

30 June 2006

Number of businesses required by ACMA to comply with the <i>Spam Act 2003</i>	880
Enforcement actions taken under the <i>Spam Act 2003</i>	22

Complaints resolved by the Telecommunications Industry Ombudsman

Complaint outcomes	2005–06
Substantially in favour of complainant	29%
Partially in favour of complainant	16%
Neutral	44%
Partially in favour of member	3%
Substantially in favour of member	8%

Breaches of codes

Established or confirmed code breaches ¹	688
Complaints resolved at Level 2 or above	7,796

TIO members	1,170
--------------------	--------------

¹ Investigated at Levels 2/3/4.
Source: TIO





COMMUNICATIONS PARTICIPANTS

'Breakthroughs in information and communications technologies over recent years are fundamentally transforming the way Australians work, live and play, particularly the younger generations.'

Chris Chapman

ACMA Chairman

Convergence in action – the new ACMA

Speech to the Australian Broadcasting Summit, Sydney 2006

'We are still living in the early stages of that wave of technological change that is revolutionising our media and communications industry. We all want to see new services, dynamic innovation and entrepreneurial energy and competition in the future of Australia's media and communications sector.'

Graeme Samuel

ACCC Chairman

'Grandad, what's a newspaper?' The next media revolution

Speech on media ownership reform, May 2006

2 Consumers and audiences

Overview

Consumer behaviour is central to understanding a changing communications environment. It is consumer usage that informs us of what services are widely valued, how services are being utilised, who is relying on which services and why, what is considered an essential service, and consumer expectations for service quality and availability.

To be an effective regulator of the communications industry and to inform and protect consumers, ACMA must have a comprehensive understanding of the Australian consumer market. Understanding consumers' communications needs involves understanding how technologies and applications are used, having an appreciation of the different segments within the community and an awareness of emerging technologies and trends.

This chapter is an initial step in ACMA's consumer research strategy. In future years, ACMA will build on this basis to better target its consumer related activities and understand consumer needs and expectations.

This information has been collected from sources including the Australian Bureau of Statistics, Roy Morgan Research Single Source, Commercial Radio Australia, the Lifelounge Urban Market Report and ACMA research. Wherever possible, information has been benchmarked against multiple sources.



Specifically, this chapter covers:

- a profile of consumers over time and overall usage statistics;
- a technology take-up curve and adoption segmentation to provide a richer understanding of how Australian consumers are engaging with the current technologies; and
- the behaviour of urban youth consumers, whose usage habits differ to other age groups and give an indication of the behaviour of the future generation and emerging trends.

Refer to Chapter 11 for emerging communications challenges, including an insight into emerging communications and media technologies, and markets over the next three to five years and the regulatory changes for consumers, industry and government.

Usage statistics

For the average Australian consumer, the progressive release of new technologies and standards has enabled a continuing growing take-up of communications services over the past five to 10 years.

In 1998, less than half of all Australian households had personal computers. Consumers were unlikely to have internet access at home (16 per cent of households), while mobile phones were still a new technology for some consumers, with 44 per cent of households owning a mobile phone.¹

In 2001–2002, more than half of all households had personal computers and 42 per cent of all households had internet access. Mobile phone ownership had increased to 72 per cent of households.¹

In 2006, the typical Australian consumer owns a mobile phone, many with cameras and other extra functions. Most consumers have access to the internet at work or at home, more than a third of homes have broadband connections, and most people watch more than two hours of television per day and listen to 2.5 hours of commercial radio. One out of five consumers watches subscription television. During 2005–06, digital televisions became more common, and more consumers registered to use voice over internet protocol (VoIP) services.

Appendix 2.1 contains additional consumer and audience usage statistics.

¹ ABS 4102.0 *Australian Social Trends 2006*, ABS 1377.0—*Measures of a Knowledge-based Economy and Society 2003*

Table 2.1: Usage statistics for 2005–06

		Total	Source
Population	Total population	20.5 m	ABS: catalogues 3222.0 and 3236.0
	Population aged 14+ years	16.5 m	
	Total households	8.0 m	
Mobile phone usage	Own or use a mobile phone	79.4%	Roy Morgan Single Source, July 2005–June 2006, 14+ years, sample= 22,714
	Own a 3G mobile phone (% of mobile phone market)	8%	
Internet overview	Internet connection at home (% of households)	61.6%	Roy Morgan Single Source, April–June 2006, 14+ years, sample=6,407
	Broadband at home (% of households)	35.5%	
	Use VoIP	3.7%	Alternative source: ABS catalogue 8153.0, Internet Activity June 2006. Internet: 63.7% of households, Broadband: 32.5% of households
Internet usage – no. of times accessed in last week	Heavy (8+ times)	32.3%	Roy Morgan Single Source, July 2005–June 2006, 14+ years, sample=22,714
	Medium (1–7 times)	32.6%	
	Light (<1 time)	15.8%	
	Never accessed the internet	19.2%	
Commercial TV viewing – no. of hours on a normal weekday	Heavy (4+ hours)	20.8%	Roy Morgan Single Source, July 2005–June 2006, 14+ years, sample= 22,714
	Medium (2–4 hours)	40.8%	
	Light (<2 hours)	32.1%	
	No commercial TV viewing	6.3%	
Pay TV	Watched in the last 7 days	20.8%	Roy Morgan Single Source, July 2005–June 2006, 14+ years, sample= 22,714
Digital TV	Excluding digital subscription TV	20%	Digital Broadcasting Australia (DBA) media release 16 August 2006, www.dba.org.au
Commercial radio	Commercial radio listening (each week), aged 10+ years, 5 metropolitan markets	77%	Commercial Radio Australia – national survey results, Survey 4 2006, www.commercialradio.com.au
	Listening per day	2hr 36min	

Mobile phones

Mobile phone usage in Australia is high, with 79 per cent of consumers owning or using a mobile phone. Ownership is highest amongst the 25–34 year olds (90 per cent) and lowest for consumers aged 65+ years (53 per cent).

Table 2.2: Mobile phone usage, 2005–06

	14–17 years	18–24 years	25–34 years	35–49 years	50–64 years	65+ years	Total
Own or use a mobile phone	74.3%	87.7%	89.8%	85.7%	77.7%	52.9%	79.4%

Source: Roy Morgan Single Source, July 2005–June 2006

Of mobile phone users:

- 50 per cent of 25–34 year olds agreed that ‘I now use my mobile more than my home phone’;²
- 15 per cent of people agreed they would ‘seriously consider buying a 3G mobile phone’;² and
- eight per cent of mobile phone consumers currently have 3G subscriptions.³

In addition to regular calls, mobile phones are used for:

- sending and receiving SMS (73 per cent of mobile phone users);²
- playing games (25 per cent of mobile phone users);²
- taking photos (29 per cent of mobile phone users);² and
- sending or receiving email (six per cent of mobile phone users).²

² Roy Morgan Single Source, July 2005–June 2006, 14+ years, sample=22,714.

Roy Morgan Research is the largest and longest established Australian market research company, with over 60 years of experience in Australia. The syndicated Single Source survey in Australia provides an integrated understanding of consumers aged 14+ based on an annual sample of around 55,000 respondents, with information detailing what consumers are like, what they buy, consume, think, intend, watch, read and listen to. As all information has been gathered from the same respondents, the strength of relationships between different characteristics of the population can be measured directly.

Roy Morgan Research has been collecting information on mobile phones, fixed line, internet, and Pay TV for several years, providing continuous trend data that is both consistent and trialed over time. Major telecommunications network providers, service providers, handset manufacturers and government bodies utilise this unique information across a variety of business applications. Roy Morgan Research constantly refines the questionnaire to ensure information is current and relevant to the industry. By taking into account the overall economic climate, regulatory issues, international trends and changes in technology Roy Morgan Research provides key insights into the evolving telecommunications and technology markets.

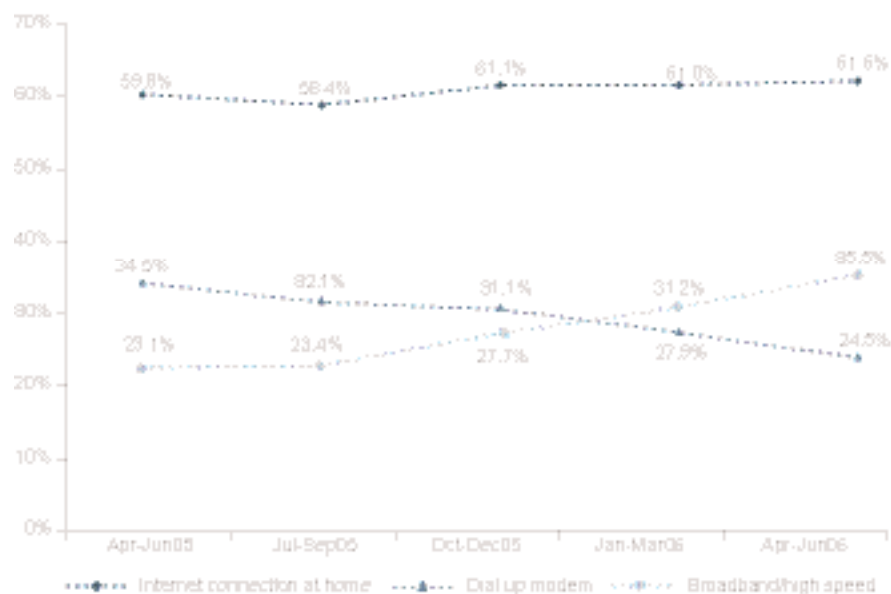
³ Industry data from ACMA data request, June 2006

Internet

More than 80 per cent of Australians access the internet (anywhere) and more than 30 per cent are heavy users (July 2005–June 2006).²

The ABS estimates that 63.7 per cent of households have internet connections at 30 June 2006, while Roy Morgan survey data estimates 61.6 per cent for the same metric. Figure 2.1 shows household internet connection penetration has remained fairly stable throughout the year. Home broadband access is increasing, with 35.5 per cent of households having access in the quarter ending June 2006, compared with 23.1 per cent for the same quarter in 2004–05. As broadband connections become more widely adopted, the proportion of household dial-up connections decreases.²

Figure 2.1: Household internet connection trends, quarters ending June 2005 to June 2006



Source: Roy Morgan Single Source, April 2005–June 2006. Sample size is approx. 5,500 per quarter. Internet home connection categories include dial-up, broadband/high speed as well as ISDN and 'no answer', which are not shown on the graph.

A higher proportion of households that include 14–17 year olds have internet access (80 per cent), compared with 33 per cent of households where residents are aged 65+ years. Internet cafes service a niche market, with only four per cent of people having used an internet cafe in the last three months (excludes overseas travellers).²

Home internet access and broadband connection take-up is lower in rural areas as a proportion of households (see Table 2.3).

² Roy Morgan Single Source, July 2005–June 2006, 14+ years, sample=22,714.

Table 2.3: Percentage household internet connection by type of connection and region, April 2006–June 2006

	Capital cities	Country areas	Total
Internet connection at home (% of households)	64.3%	57.4%	61.6%
Have broadband at home (% of households)	40.6%	27.7%	35.5%

Source: Roy Morgan Single Source, April 2006–June 2006

Australians use the internet for a range of activities including:

- email (66 per cent of all respondents);²
- academic/business research (41 per cent of all respondents);²
- shopping/paying bills/banking transactions (40 per cent of all respondents);² and
- socialising/entertainment (45 per cent of all respondents).²

VoIP

The use of VoIP services is set to increase, with four per cent of consumers currently using VoIP and an additional 13 per cent stating that they were ‘likely to use VoIP in the next 12 months’.²

Television

Almost everyone watches commercial television (93.7 per cent), with 62 per cent of Australians viewing for two or more hours per day. One in five consumers watched subscription television.²

It is estimated that free-to-view digital television has reached 1.57 million households, a penetration rate of approximately 20 per cent (this excludes digital subscription television).⁴

Radio

When national and community broadcasters are included with commercial radio, it is estimated that the listening audience is close to 95 per cent,⁵ compared to 77 per cent for commercial radio only.⁶ Commercial radio is particularly strong among people aged 10–54 years, with over 80 per cent tuning in each week. While only 67 per cent of people aged 55+ years listen to commercial radio, this group is a strong audience of the national broadcasters (ABC and SBS).

² Roy Morgan Single Source, July 2005–June 2006, 14+ years, sample=22,714.

⁴ Digital Broadcasting Australia media release, 16 August 2006 (excludes digital subscription TV), www.dba.org.au

⁵ *Understanding Community Attitudes to Radio Content*, Australian Broadcasting Authority, October 2003

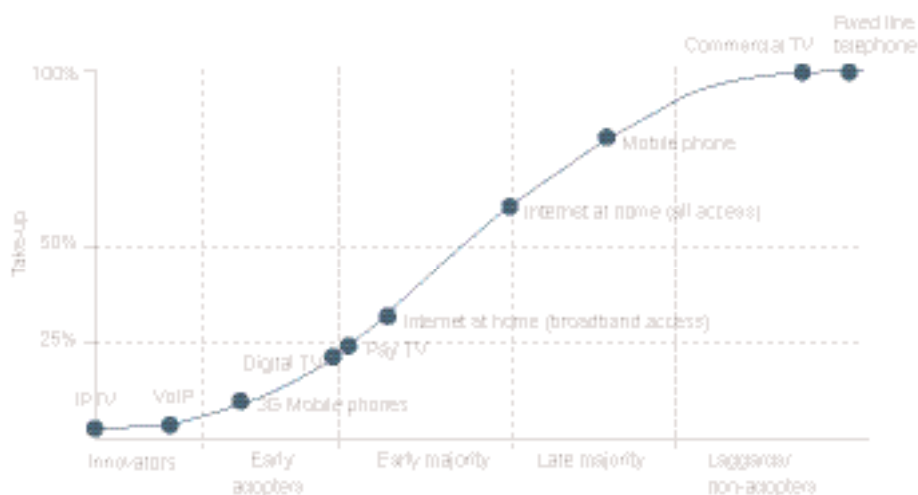
⁶ Commercial Radio Australia-national survey results, Survey 4 2006, www.commercialradio.com.au

Consumer take-up curve

The evolution of new technologies and applications prompts new questions about how they are used by different sections of the community and whether there is a role for ACMA in informing consumers or introducing protections.

The following consumer take-up curve gives a snapshot of the evolution and adoption of communications technologies, giving a concise view of the current environment in which ACMA regulates. For example, VoIP (3.7 per cent take-up) and 3G (eight per cent take-up) are in the very early stages of take-up used only by the so-called ‘innovator’ and ‘early adopter’ consumers. IPTV is another emerging technology. Mobile phones (79.4 per cent take-up) and the internet (61.6 per cent take-up) are now more mature technologies used by many consumers.

Figure 2.2: Australian consumer take-up curve, 2005–06



Source: Various sources as used in Table 2.1

The cycle of products through the adoption curve can be monitored over time. A consumer take-up curve in 15 years time, or a take-up curve from another country, may look quite different, reflecting the different environments of regulation and the progress of new products and applications.

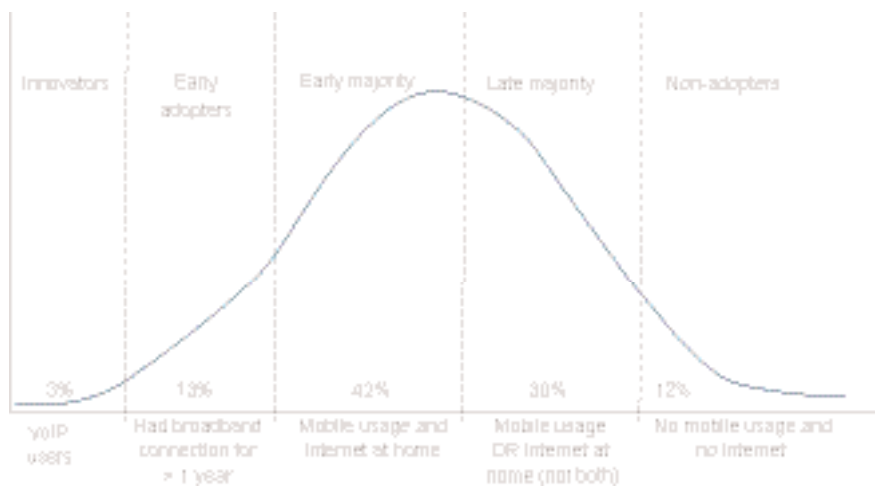
Technology adoption segmentation

In fostering an effective regulatory environment that enables industry to meet the communications needs of the community, ACMA aims to continually inform its understanding of the community’s needs and aspirations.

Consumer needs and expectations differ within the community. The commonly used Rogers’ adoption segmentation model⁷ groups consumers by how quickly they adopt a new product—some adopt a product or service as soon as it becomes available, while others are the last to use a new product.

ACMA has applied this segmentation to Roy Morgan Research Single Source survey data based on consumer take-up of VoIP, internet, broadband and mobile phones. The resulting segmentation and distribution of consumers is shown in Figure 2.3.

Figure 2.3: Technology adoption segmentation model



Source: Rogers’ Diffusion of Innovations theory applied to Roy Morgan Research data, sample=22,714 people aged 14+ years (July 2005–June 2006). Segments determined using consumer take-up of VoIP, internet, broadband and mobile phones.

Profiles of the adoption segments, using the survey data to provide information about their behaviours, attitudes and needs, are outlined in the following table, with supporting data tables in Appendix 2.2.

⁷ Rogers, E. M. (1983), *Diffusion of Innovations*, 3rd Edition, The Free Press, New York

Table 2.4: Profiles of technology adoption segments

<p>Innovators Definition: All currently use VoIP</p>	<p>Innovators are the segment most likely to adopt new technologies. A high proportion of innovators live in capital cities and a higher than average proportion is male. Very few people in this segment are aged 65+ years.</p> <p>Innovators 'go out of their way to learn everything they can about technology'. All have mobile phones and internet connections and almost all are heavy internet users. They have higher than average rates of pay TV viewing and a higher usage of mobile phone functions (for example, global roaming).</p> <ul style="list-style-type: none"> – 76 per cent agreed with the statement that 'I am interested in being able to access the internet wherever I am' – 53 per cent agreed 'I believe in taking risks' <p>This well-educated, risk-tolerant group with high incomes is the segment most likely to adopt new or future technologies.</p>
<p>Early adopters Definition: All of this segment own or use a mobile phone and have had a broadband internet connection at home for >1 year</p>	<p>Early adopters have a higher than average socioeconomic profile and an under-representation of people aged 65+ years. After the innovators, they are the group most likely to buy a 3G phone and use VoIP services. Early adopters are less likely to be heavy commercial television watchers than the rest of the population.</p> <p>In adoption segmentation theory, early adopters are considered opinion leaders among peers and have a certain amount of risk tolerance. Following the innovators, people in this segment are most likely to take up new trends in technologies.</p> <ul style="list-style-type: none"> – 58 per cent said they had bought something on the internet – 48 per cent of the early adopters agree that 'computers and technology give me more control over my life'

Table 2.4: Profiles of technology adoption segments (continued)

Early majority Definition: own or use a mobile phone and have home internet access with dial-up or broadband connection at home for <1 year	<p>The early majority and late majority segments combined account for 72 per cent of consumers in total.</p> <p>The early majority have slightly higher numbers of professional and white collar workers and low proportions of people aged 65+ years. Few other demographic characteristics distinguish this segment from the overall population.</p> <p>This segment are more risk averse than, and rely on, early adopters and innovators to trial products. The early majority are generally careful, but accept change more quickly on average.</p>
Late majority Definition: have either a mobile phone or an internet connection at home (but not both)	<p>Income and education levels are lower than average for this group. The majority agreed they 'find technology is changing so fast, it's difficult to keep up with'.</p> <p>People in this segment are described by adoption segmentation theory as 'sceptical consumers who acquire products only after it has become commonplace' and are more cautious of new ideas.</p>
Non-adopters Definition: Do not use a mobile phone and do not have an internet connection at home	<p>The majority of non-adopters are over 50 years of age and the remainder have lower than average wealth, education levels and occupation types. This is the segment least likely to adopt new technologies.</p> <p>Very few of the non-adopters (4.9 per cent) are likely to connect to the internet in the next six months with the most prominent reasons being 'not relevant to my lifestyle' (62 per cent) and 'too expensive' (27 per cent).</p> <ul style="list-style-type: none"> – 78 per cent find that 'technology is changing so fast, it's difficult to keep up with' – 60 per cent agree that 'there's too much change going on these days' <p>While it is possible that the younger group of non-adopters may become more technologically engaged over time, it is unlikely that the older age group will embrace new technologies. This group is the least likely to adopt new technologies, services or products.</p>

Source: Roy Morgan Single Source, July 2005–June 2006

Young adult market

Trends in the young adult market give an indication of the technological behaviour of the future generation and emerging trends. Understanding these trends helps to prepare for regulatory challenges of the future.

Today’s young adults are the first generation to grow up with the internet. In a society of fast-moving technological development, young adults are the age group most comfortable with the pace (see Table 2.5).

Table 2.5: Measure of comfort with technology change

	18–29 years	30–54 years	55+ years
Agree ‘I find technology is changing so fast, it’s difficult to keep up with’	46.7%	69.3%	83.2%

Source: Roy Morgan Single Source, July 2005–June 2006

Two main sources have been used for this research—the 2005 and 2006 Lifelounge Urban Market Reports™ (UMRs)⁸ and Roy Morgan Research Single Source survey data². Both sources report young adult key themes of:

- increased reliance on mobile phones;
- increased socialising on the internet; and
- a greater integration of these technologies into their lifestyles.

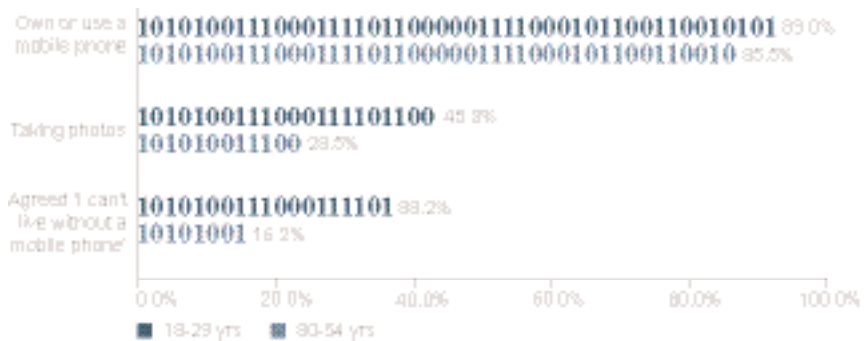
Mobile phone trends

Ownership of mobile phones is high for both the 18–29 years and 30–54 years age groups, but use of camera functions and reliance on mobile phones is significantly greater for young adults.

² Roy Morgan Single Source, July 2005–June 2006, 14+ years, sample=22,714.

⁸ The Lifelounge Urban Market Reports (2005 and 2006) were produced and written by Lifelounge Pty Ltd in conjunction with the Lambesis Research Group and EMAP Australia. This research report is based on the young adult urban market. Both the 2005 and 2006 reports have been sourced, with results derived from an analysis of quantitative surveys (sample n=1121, for 2006) and qualitative surveys (sample n=18 across Sydney, Melbourne and Adelaide, for 2006) collected from 16–29 years). It should be noted that as the survey was conducted on the lifelounge.com website, sample is biased towards these online young adults.

Figure 2.4: Young adult mobile phone use, 2005–06



Source: Roy Morgan Single Source, July 2005–June 2006

The UMRs found 'Mobile phones provide this young adult market with freedom, independence and the ability to never be bored. Even when travelling overseas, young adults are taking their mobile phones with them ... Inbuilt cameras, MP3 players, games and online content provide the ability to never be bored. The latest mobile phones already come installed with Pocket PC.'

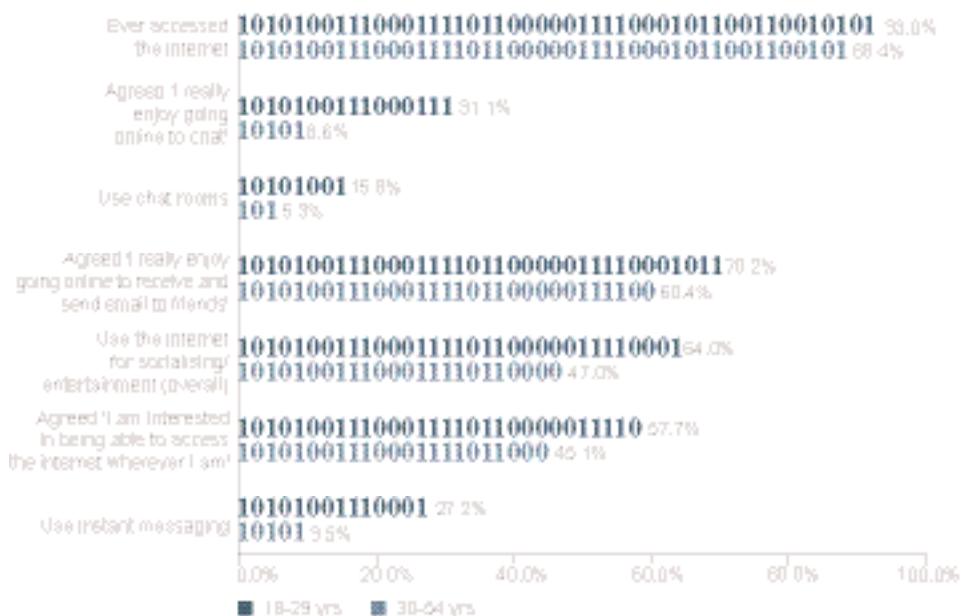
'Mobiles are the appendage young adults can't live without. They enable them to keep in touch with their mates.'

Source: *The Lifelounge Urban Market Reports (2005 and 2006)*

Socialising over the internet

The 18–29 years age group shows a higher tendency to chat online, use chat rooms, email friends and use the internet for socialising and entertainment in general. They are more interested in 'accessing the internet wherever they are' than older adults. They also have a higher use of instant messaging.

Figure 2.5: Young adult internet use, 2005–06



Source: Roy Morgan Single Source, July 2005–June 2006

The UMRs report that 'the urban market uses online communities to communicate and learn ... (The internet's) instantaneous, interactive and increasingly mobile media is normal and expected. They use the resource to not only obtain information and be entertained, but also to publish, communicate and socialise.'

'Online communication has become integral to their way of life.'

Source: The Lifelounge Urban Market Reports (2005 and 2006)

Internet and television competing for time

The UMRs found that 'television and internet use for non work or study related purposes occupies a large amount of young adults' time.' It identifies a growth in young adults spending more than 10 hours a week browsing the internet with television and internet now competing for time.

Source: The Lifelounge Urban Market Reports (2005 and 2006)

Do-it-yourself activities on the internet

As well as increased socialising, people in the young adult age group use the internet as a do-it-yourself tool for multiple activities including creating their own websites and downloading music.

Figure 2.6: Young adult music downloads, 2005–06



Source: Roy Morgan Single Source, July 2005–June 2006

The UMRs found that 'DIY technology is increasingly popular. Musicians are making their own beats and posting their MP3 recordings online. Travellers are documenting their adventures with digital cameras and publishing them online for everyone to see. Surfers and skaters are using digital cameras to film their day's adventures and editing them using software packages and amateur filmmakers are taking it one step further and creating their own mini-documentaries.'

'Downloading and burning albums is more common than ever.'

Source: The Lifelounge Urban Market Reports (2005 and 2006)

Further information about consumers and audiences

www.acma.gov.au/CommsReport

Appendixes

- 2.1 Consumers and audience usage statistics
- 2.2 Consumer technology adoption segmentation

Data updates

- Australian Bureau of Statistics, Catalogue 8153.0 *Internet Activity Australia June 2006*
- Australian Bureau of Statistics, 2006 Census of Population and Housing
- ACMA, *Digital Media in Australian Homes*, research update 2006
- Commercial Radio Australia national surveys (eight surveys throughout 2006)
- Oztam (Australian Television Audience Measurement) *Television Ratings Guide* (regular reporting for rating periods)
- Roy Morgan Research

Documents

- Australian Broadcasting Authority (now ACMA), *Understanding Community Attitudes to Radio Content*, October 2003
- Australian Bureau of Statistics, 1377.0, *Measures of a Knowledge-based Economy and Society, Australia, 2003*
- Australian Bureau of Statistics, 3222.0, *Population Projections, Australia, 2004 to 2101*
- Australian Bureau of Statistics, 3236.0, *Household and Family Projections, Australia, 2001 to 2026*
- Australian Bureau of Statistics, 4102.0, *Australian Social Trends*, 2006
- ACMA, *Consumer Satisfaction Survey 2005*, November 2005
- ACMA, *Digital Media in Australian Homes*, 2005
- Lifelounge Pty Ltd, *The Urban Market Report™ 2006*
- Rogers, E. M., *Diffusion of Innovations*, 3rd edition, The Free Press, New York, 1983

Organisations

Australian Bureau of Statistics (www.abs.gov.au)

Australian Television Audience Measurement (www.oztam.com.au)

Digital Broadcasting Australia (www.dba.org.au)

Commercial Radio Australia (www.commercialradio.com.au)

Roy Morgan Research (www.roymorgan.com.au)

3 Industry

Overview

The telecommunications industry, as regulated under the *Telecommunications Act 1997*, comprises carriers, which own or operate network infrastructure, and carriage service providers, which deliver a wide range of telecommunications services including fixed telephony, mobile and internet services. This chapter provides an overview of the telecommunications industry in 2005–06, including:

- industry composition—reflected in the number of network operators and service providers active in the market, types of services provided and numbers; and
- industry indicators—with number allocations, number portability and domain name registrations used as measures of broader industry trends.

The broadcasting industry, as regulated under the *Broadcasting Services Act 1992*, comprises seven categories of services: national, commercial, community and subscription broadcasting; subscription narrowcasting; open narrowcasting and international. This chapter provides an overview of the Australian broadcasting industry and levels of industry activity, by describing:

- the characteristics of the licensing categories and data about key activities; and
- trends in advertising expenditure across the various industry sectors.

The subscription television industry in Australia is described in terms of industry ownership, subscriber numbers and access technologies.



Telecommunications industry

Industry composition

The communications industry is undergoing substantial change as new technologies and services stimulate demand. Comparison of subscriber numbers over the last seven years across mobile phone, fixed-line phone and internet services illustrates key trends affecting the industry, including:

- the continued strong growth in 2005–06 for mobile phone services;
- a general flattening, and recent decline, in demand for fixed-line phone services; and
- the continued rise in internet subscriber numbers.

Figure 3.1: Telecommunications services – subscriber numbers for mobile, fixed-line and internet services, 1999–2000 to 2005–06



	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Mobile phones	8,010,000	11,100,000	12,700,000	14,300,000	16,480,000	18,420,000	19,760,000
Fixed services	10,600,000	10,800,000	11,400,000	11,580,000	11,660,000	11,460,000	11,260,000
Internet subscribers	3,410,000	3,968,000	4,270,000	5,080,000	5,220,000	5,980,000	5,950,000

Internet subscription figures are at 31 March for each year, except 2005–06. ABS internet subscriber data for 2005–06 was only sourced from internet service providers with 10,000 or more active subscribers.

Numbers in millions, rounded to two decimal places.

Source: ACMA, ABS-Telecommunications services subscriber numbers for mobile, fixed-line and internet services 2006.

Telecommunications carriers

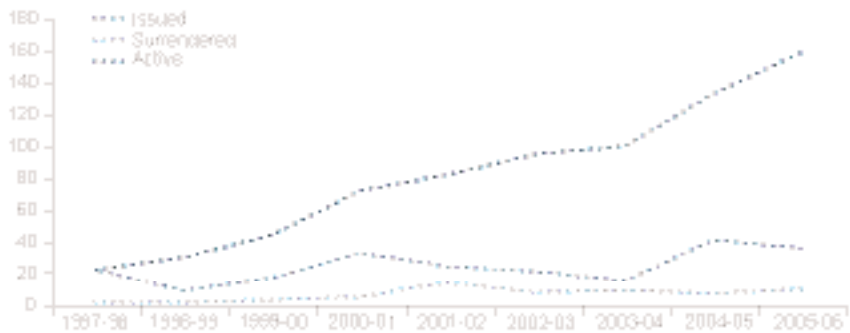
Licensed carriers

Telecommunications carriers are licensed by ACMA under the *Telecommunications Act 1997*. A carrier licence permits the carrier to install infrastructure, such as cable and radiocommunications facilities, that carriage service providers (CSPs) use to supply telecommunications services to the public.

Since the telecommunications market was opened to full competition in 1997, the Australian market has grown from the Telstra and Optus duopoly to 157 licensed telecommunications carriers.

ACMA issued 35 new carrier licences during 2005–06, a small decrease on the 40 licences issued in the previous year. There were 10 carrier licences surrendered during the year. Figure 3.2 displays the trends for carrier licences issued and surrendered since 1997. See Appendix 3.1 for ACMA telecommunications carrier data.

Figure 3.2: Carrier licences issued, surrendered and active, 1997–98 to 2005–06



Source: ACMA

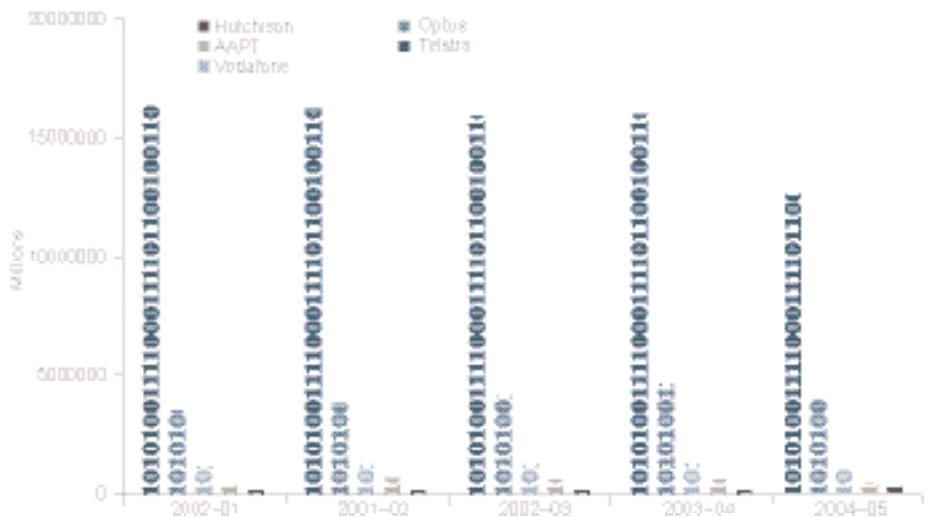
The high level of new licensed carriers during 2005–06 may have been influenced by:

- The rollout of wireless local area network base stations stimulated by the government subsidies available under the Higher Bandwidth Incentive Scheme (HiBIS) that ended on 31 December 2005, and the \$878 million Broadband Connect program that commenced on 1 January 2006. Many new carriers have indicated to ACMA that they intend to use wireless networks to provide high-speed internet access to customers.
- The significant reductions in 2004 of the carrier licence application charge from \$10,000 to \$2,200 and the fixed annual licence charge from \$10,000 to less than \$1,000. The reductions have encouraged competition by making it easier for smaller players to enter the market.
- The removal on 23 September 2005 of the obligation on carrier licence applicants to provide Industry Development Plans, thereby streamlining the carrier licence application process.

ACMA collects information about carriers' eligible telecommunications revenue to calculate the universal service obligation levy debit payable by each carrier. Trends observed in eligible revenues are taken to be broadly reflective of the trends in the market shares of carriers.

Telstra has experienced a proportional decrease in telecommunication carrier revenues over time, while the market shares of other carriers, particularly Optus, has increased. See Appendix 3.1 for telecommunications carrier eligible service revenues.

Figure 3.3: Telecommunications carrier revenues, 2000–01 to 2004–05



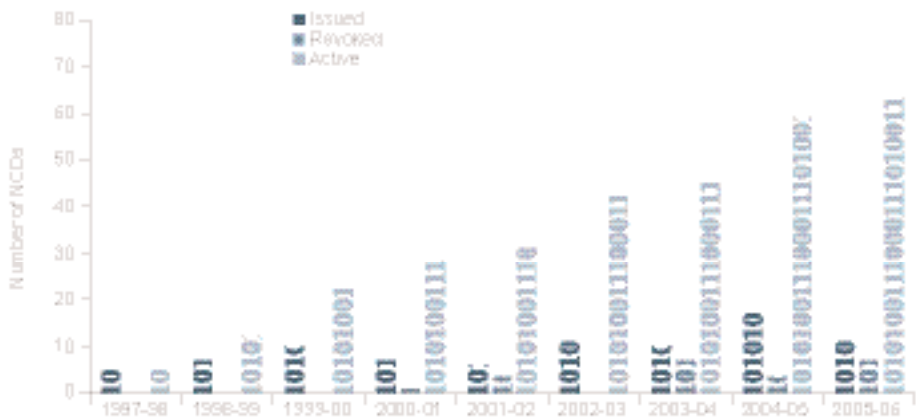
Source: ACMA, based on USO levy and eligible service revenue

Nominated carrier declarations

Nominated carrier declarations enable companies to own and operate network units by making another carrier responsible for specified network units and all carrier obligations under the Telecommunications Act. This arrangement facilitates the entry of smaller service providers to the market.

During 2005–06, ACMA issued 11 nominated carrier declarations and revoked seven, compared with 17 and three respectively in 2004–05. At 30 June 2006, 63 declarations were in force.

Figure 3.4: Nominated carrier declarations issued and revoked, 2001–02 to 2005–06



Source: ACMA

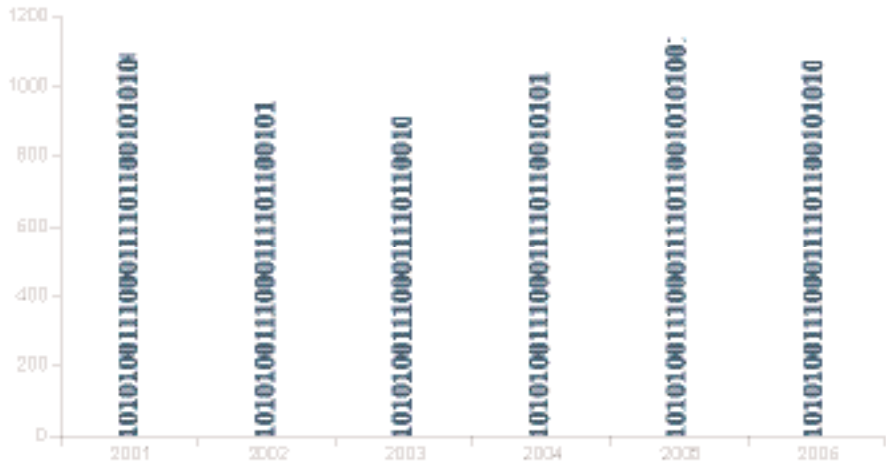
Carriage service providers

CSPs supply telecommunications services to the public using network units owned by a licensed carrier, or in respect of which a nominated carrier declaration is in force.

Eligible CSPs are required to be members of the Telecommunications Industry Ombudsman (TIO) scheme. This includes CSPs which supply a standard telephone service to residential or small business customers, a public mobile telecommunications service, or a service enabling access to the internet.

The TIO public register listed 1,170 CSPs at 30 June 2006, an increase of 35 (or three per cent) on 30 June 2005. See Appendix 3.2 for further information regarding TIO scheme membership data.

Figure 3.5: Carriage service providers registered with the TIO, 2001 to 2006

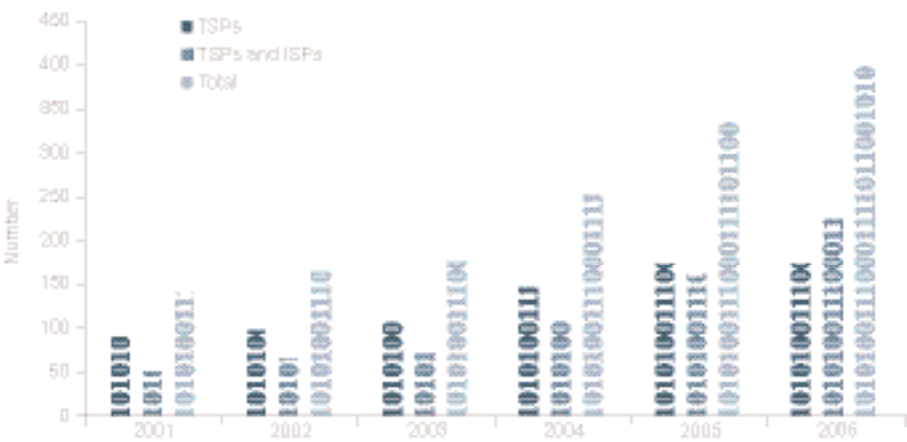


Source: TIO

Telephone service providers

At 30 June 2006, telephone service providers (TSPs) accounted for 12 per cent of the CSPs registered with the TIO, and companies that offered both telephone and internet services comprised a further eight per cent.

Figure 3.6: Telephone service providers registered with the TIO, 2001 to 2006



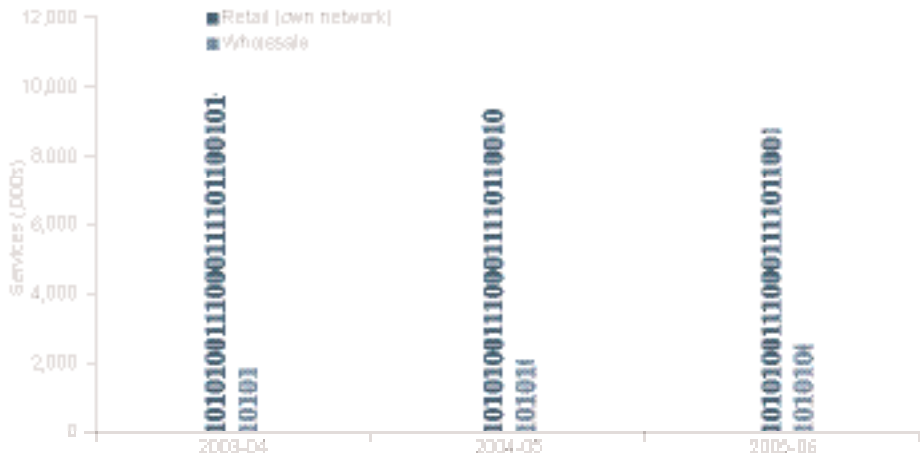
Source: TIO

Fixed-line telephony

The size of the fixed-line telephone market can be measured as the supply of the standard telephone service (STS), which is the primary service subject to telecommunications regulation in Australia (see Chapter 5 for industry performance against regulated obligations).

Based on industry data, ACMA estimates that there were approximately 11.26 million fixed-line telephone services in operation at 30 June 2006, a decrease of 1.8 per cent on the 11.46 million fixed voice services in operation at 30 June 2005 (see Figure 3.7).

Figure 3.7: Telephony – fixed-line services in operation, 2003–04 to 2005–06



Figures in thousands ('000)

Source: CSP data

It is becoming more difficult to reliably estimate the number of fixed-line services in operation due to the capacity of CSPs and consumers to configure networks and download voice applications over IP networks. Nevertheless, the continued decline of fixed-line services remains apparent. This trend can be attributed to consumers substituting fixed lines with mobile phones. The continued transition from dial-up to broadband internet access facilitates consumers' use of alternative means of communication, such as VoIP, email and instant messaging.

The continuing decline in the number of retail services provided by Telstra on its own network, and the increase in its wholesale services, is illustrated in Table 3.1. Telstra's fixed services fell by 1.8 per cent between 2004–05 and 2005–06. Within that total:

- the residential retail category fell by 2.4 per cent;
- business retail fell by 5.6 per cent; and
- the wholesale category rose by 4.0 per cent.

The trend of increasing wholesale services and decreasing retail services could be attributed to stronger competition in the fixed phone market.

Table 3.1: Retail and wholesale fixed telephone services, 2003–04 to 2005–06

	2003–04	2004–05	2005–06
All CSPs			
Retail (own network)	9.82	9.38	8.75
Wholesale	1.84	2.08	2.50
Total	11.66	11.46	11.25
Telstra			
Residential (retail)	5.87	5.59	5.46
Business (retail)	2.57	2.45	2.32
Wholesale	1.84	2.08	2.16
Total	10.28	10.12	9.94

Figures in millions ('000,000)

Source: ACMA

Fixed-line revenue decreased for all major service call categories—local, long distance, international and fixed-to-mobile. Revenue derived from wholesale fixed-line access is the only service category providing an increase in revenue from 2004–05 (refer to Chapter 10).

Mobile service providers

The mobile telephony industry is represented by the Australian Mobile Telecommunications Association (AMTA). AMTA reports that there were 27 mobile operators in Australia at 30 June 2006.

Mobile service providers include:

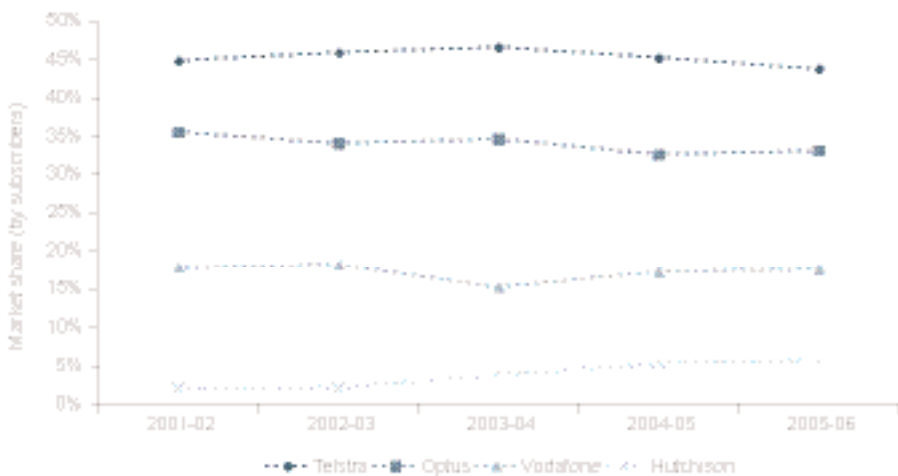
- four licensed carriers who own and operate mobile telephony networks—Telstra, Optus, Vodafone and Hutchison ‘3’;
- mobile virtual network operators (MVNOs), which access mobile carriers’ networks to re-badge services as their own; and
- resellers who retail a carrier’s mobile service, either as part of a bundle or as a single service. In 2005–06, resellers included Primus Mobile (resells Telstra services), SIMplus (Optus) and BDigital (Optus).

During 2005–06, ACMA came to the view that fixed cellular terminal (FCT) operators are CSPs. An FCT, also known as a GSM gateway, carries one or more SIM cards and delivers both fixed and mobile calls onto a mobile network that are charged at mobile-to-mobile call rates. FCT operators’ business models are based on an arbitrage opportunity that exists when retail pricing of the SIM cards in the FCT is cheaper than wholesale pricing for mobile termination. ACMA has noted ongoing tension between FCT operators and mobile carriers over the terms and conditions on which FCT operators purchase and resell retail mobile termination services and other network conditioning issues.

In 2005–06, Telstra maintained the largest subscriber share in the mobile carrier market with approximately 44 per cent or 8.6 million subscribers on its networks. Optus had approximately 33 per cent of market share or 6.5 million subscribers. This number included the 600,000 Virgin Mobile subscribers who access services provided over the Optus network.

Since the market was opened to full competition in 1997, the market share of Optus and Vodafone has remained relatively stable, while Hutchison's market share has increased strongly, from a low base.

Figure 3.8: Mobile carrier market share by subscriber numbers, 2001–02 to 2005–06



Source: ACMA

Table 3.2: Mobile phone services – retail and wholesale customers (millions), 2002–03 to 2005–06

	2002–03		2003–04		2004–05		2005–06	
	Net new customers	SIOs	Net new customers	SIOs	Net new customers	SIOs	Net new customers	SIOs
Telstra	0.53	6.57	1.10	7.67	0.65	8.32	0.31	8.61
Optus	0.63	4.87	0.82	5.69	0.30	5.99	0.52	6.51
Vodafone	0.45	2.59	-0.09	2.50	0.67	3.17	0.28	3.45
Hutchison	0.06	0.30	0.32	0.62	0.33	0.95	0.19	1.13
Total	1.67	14.33	2.15	16.48	1.95	18.43	1.3	19.7

Figures in millions ('000,000)

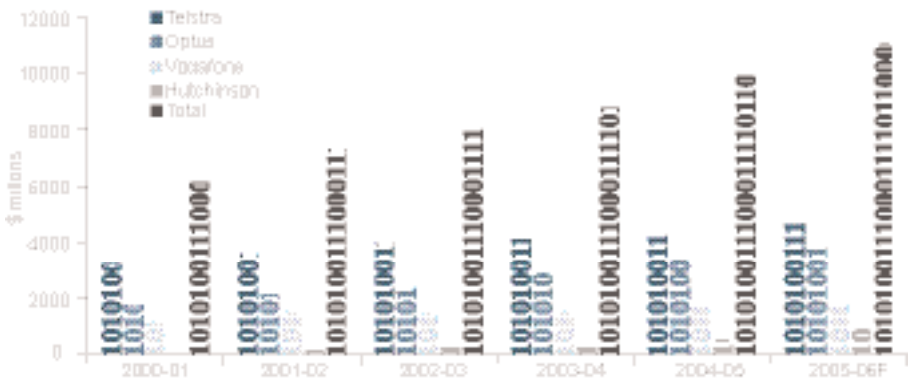
SIOs: services in operation

Net change in customer numbers accounts for new customers signed up by the network operator, customers relinquishing a mobile phone account or moving to an alternative network operator, and discontinued customer accounts such as pre-paid accounts that have been inactive for more than 60 days.

Source: ACMA

The mobile market continued to expand during 2005–06, stimulated by lower call charges and consumers substituting fixed-line phones for mobile services. Revenue across the four main mobile carriers is illustrated in Figure 3.9 below. While Telstra continues to maintain the largest share of revenue, with 42 per cent of the mobile market revenue, stronger revenue growth is being experienced by Optus, Vodafone and Hutchison.

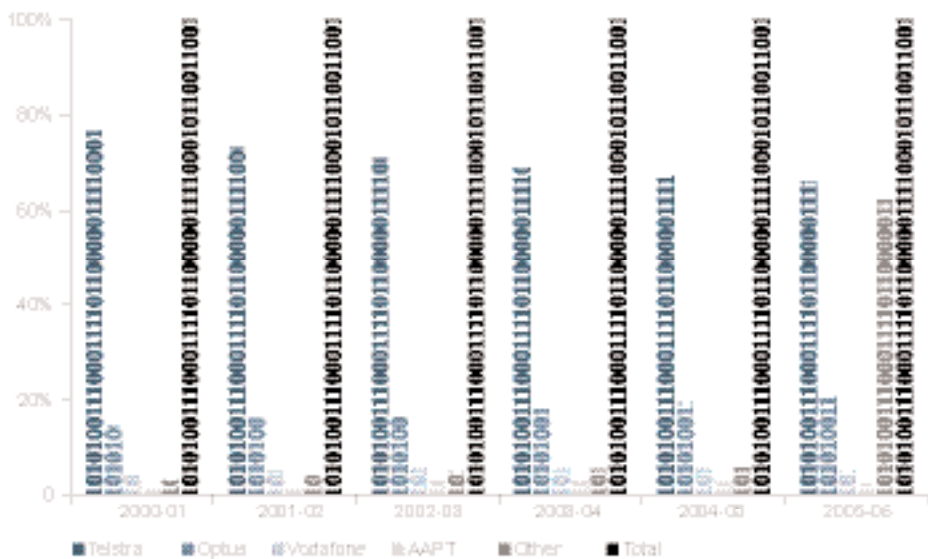
Figure 3.9: Mobile network carriers' revenue, 2000–01 to 2005–06



Source: Credit Suisse First Boston 2005, Australian Telecommunications 2005, Equity Research

A trend toward greater competition across the telephony market in general (fixed-line and mobile services combined) is reflected in Figure 3.10, which illustrates that retail market share has become more evenly distributed among carriers during each year since 2000–01.

Figure 3.10: Telephony (fixed-line and mobile) percentage market share by revenue, 2001–02 to 2005–06

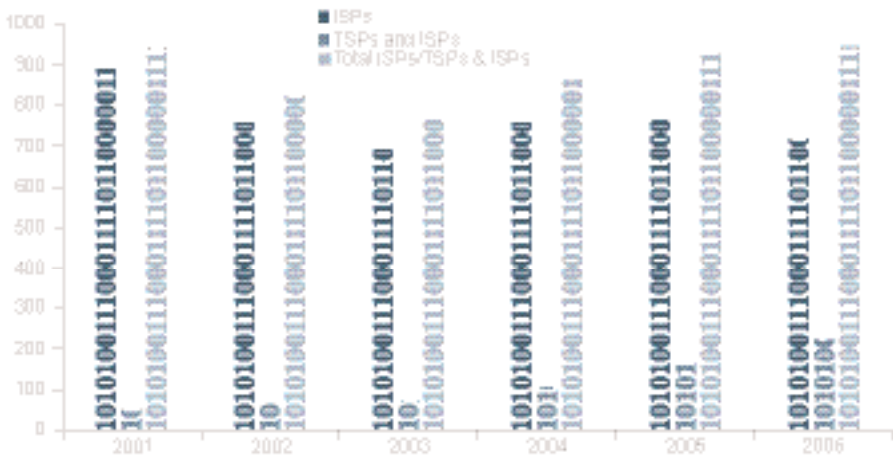


Source: ACMA, based on USO levy and eligible service revenue

Internet service providers

Internet service providers (ISPs) are a category of CSP that supply access to the internet via telecommunications networks. At 30 June 2006, the TIO had 719 CSPs registered as ISPs and 225 registered as both ISPs and TSPs.

Figure 3.11: Internet service providers registered with the TIO, 2001 to 2006

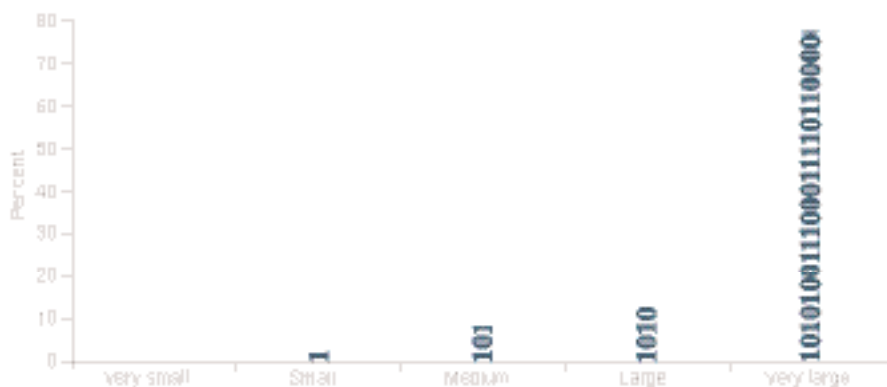


Source: TIO

The ISP industry is represented by the Internet Industry Association (IIA), which has over 200 members, including ISPs, carriers, content creators and publishers, web developers, e-commerce traders and providers, hardware vendors and systems integrators.

The ISP market structure is dominated by the 10 largest ISPs, which service 77 per cent of ISP subscribers (see Figure 3.12).

Figure 3.12: Share of subscribers by size of ISP, March 2005



	ISP sizes (subscriber numbers)	Subscribers	No of ISPs
Very small	< 100	8,000	180
Small	101 to 1,000	130,000	312
Medium	1,001 to 10,000	458,000	162
Large	10,001 to 100,000	785,000	25
Very large	> 100,000	4,599,000	10

Source: ABS

The ABS¹ reports that by June 2006, the number of internet subscribers in Australia (dial-up and non dial-up) reached 5,945 million services, 5.1 million (85 per cent) being household subscribers:

- total growth in total internet subscriber numbers from March 2005 to June 2006 was 9.4 per cent;
- non dial-up (typically broadband) subscriber numbers rose rapidly, up 82 per cent to 3.1 million, representing 53 per cent of the total internet subscriber base; and
- dial-up subscriber numbers fell by nine per cent to 2.8 million or 47 per cent of the total internet subscriber base.

¹ ABS, Internet Activity, June 2006. This report only draws on data from ISPs with 10,000 subscribers or more. Percentage growth figures above are based on applying the same methodology to March 2005 data.

Also pointing to the rapid rise of broadband take-up, market analyst Paul Budde sets out the number of retail broadband subscribers between 2002 and 2006 and the market share of the major ISPs in 2005–06 (see Table 3.3).

Table 3.3: Broadband market share by retail subscribers, 2002 to 2006

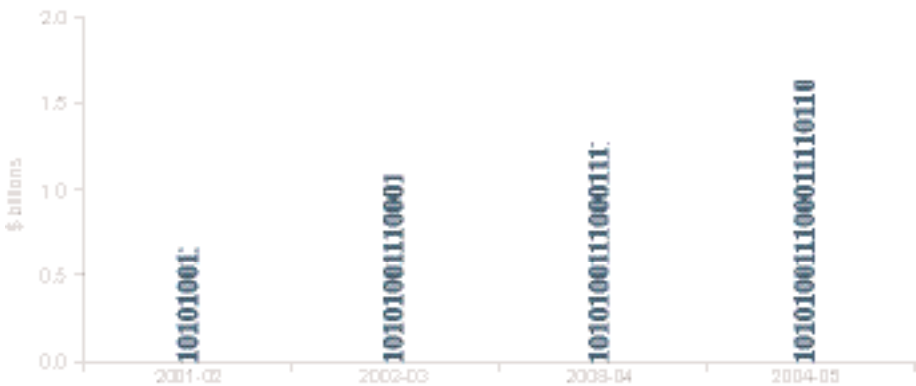
	Telstra	Optus	DSL resellers	Others
2002	52.5%	28.8%	15.3%	3.4%
2003	50.4%	20.7%	25.6%	3.3%
2004	48.3%	13.8%	34.5%	3.4%
2005	40.3%	15.6%	40.7%	3.4%
2006 (estimate)	40.0%	17.5%	34.2%	3.5%

Notes: Telstra and Optus include cable and DSL
Source: Budde Comm 3G mobile phone subscription numbers–mobile phone usage 2006

Between 2002 and 2006, the market share of the DSL resellers grew from 15 per cent in 2002 to 40 per cent in 2005, while the market share of both Telstra and Optus declined.

The 2004–05 Australian Competition and Consumer Commission (ACCC) *Market Indicator Report* shows an upward trend of revenue from retail internet services reported by Telstra, Optus, AAPT and Primus over the last four years—146 per cent increase between 2001–02 and 2004–05 (see Figure 3.13). Part of the impetus for this revenue growth is attributed to the rapid expansion of asymmetric digital subscriber line (ADSL) internet services, the revenue from which (coming off a low base) grew by 970 per cent since 2001–02, compared with revenue from dial-up and cable internet services, which grew by 92 per cent over the same period. Refer to Chapters 5 and 10, and ACMA’s *Communications Services Availability in Australia 2005–06* report for industry network activity and broadband access technologies.

Figure 3.13: Retail internet services revenue, 2001–02 to 2004–05



Source: ACCC Telecommunications Market Indicator Report 2004–05

Voice over internet protocol service providers

VoIP service providers (VSPs) are CSPs that enable users to make voice calls over IP networks. Since 2004, the provision of VoIP has expanded from the large business and corporate sector, to service offerings aimed at small-to-medium enterprises and residential customers.

The term 'VoIP' is often used as a catch-all for a range of voice services. VoIP can be used to provide telephony services. It can also be integrated into other services to provide voice communications, but not necessarily telephony as it is generally understood. There are a range of service types utilising VoIP technology, including:

- on-net services that allow users on the same VoIP network to make and receive calls to each other;
- one-way outbound services that enable users to make outgoing calls, including to the public switched telephone network (PSTN), but not to receive calls from the PSTN;
- one-way inbound services that enable users to receive calls from the PSTN, but do not enable users to make calls to the PSTN; and
- two-way services that enable users to make and receive calls from the PSTN.

In May 2005, there were approximately 25 service providers using VoIP in the delivery of services² in Australia. By June 2006, the number had grown to around 170 providers,³ with an estimated 118⁴ of these providing residential VoIP services.

According to a Roy Morgan Single Source survey of approximately 25,000 households conducted during 2006, approximately 3.7 per cent (July 2005 to June 2006) of the population aged 14+ years were currently using VoIP (this figure is slightly higher for the January 2005 to June 2006 period at 4.8 per cent of the population or 750,000 persons). This includes both paying customers and users of free P2P services.

Many of the service providers using VoIP technology to deliver services are new entrants to the voice market. Some service providers offer VoIP internationally. A few service providers have made the transition from being regional mobile phone resellers, while others are existing ISPs who are offering VoIP as an additional service.

² Telsyte presentation to ACIF Forum 6 November 2005

³ Market Clarity, *Aussie VoIP List*, www.marketclarity.com.au/voip/

⁴ Based on Market Clarity analysis

⁵ DCITA *Building Australian ICT skills – Report of the ICT skills foresighting working group May 2006*, www.dcita.gov.au/_data/assets/pdf_file/40270/Building_Australian_ICTskills.pdf

Information and communications technology industry

The ICT industry produces information and communication network equipment and parts. Proprietary technology and standards are key factors in the investment decisions of infrastructure owners and regulators, and strong competition exists between alliances of ICT suppliers to establish the dominance of their own proprietary technology.

With ICT technologies revolving around communication infrastructure and business enterprises, DCITA reports the highest growth to be coming from infrastructure technologies for broadband networks and wireless systems.⁵

ICT companies are at the centre of a number of media industry networks, Microsoft being the most central at present⁶. In its report, *Building Australian ICT Skills*, DCITA notes that ICT industry skills are increasingly integrated into the broader economy, including the telecommunications and internet industries.

Registered cablers

All individual cablers who perform customer cabling work that is connected, or is intended to be connected, to the telecommunications network must be registered with an ACMA-accredited registrar. On 30 June 2006, there were 56,958 registered cablers.

ACMA has been managing a transition from a cabler licensing system administered by the former ACA to a cabler registration system administered by ACMA-accredited registrars. The ACA issued its last five-year cabler licence in October 2000 and the last remaining such licence expired on 2 October 2005. Transition to the industry-managed registration scheme is now complete.

The five accredited registrars provide cablers with registration and other associated services. Registrars offered three types of cabler registration during 2005–06:

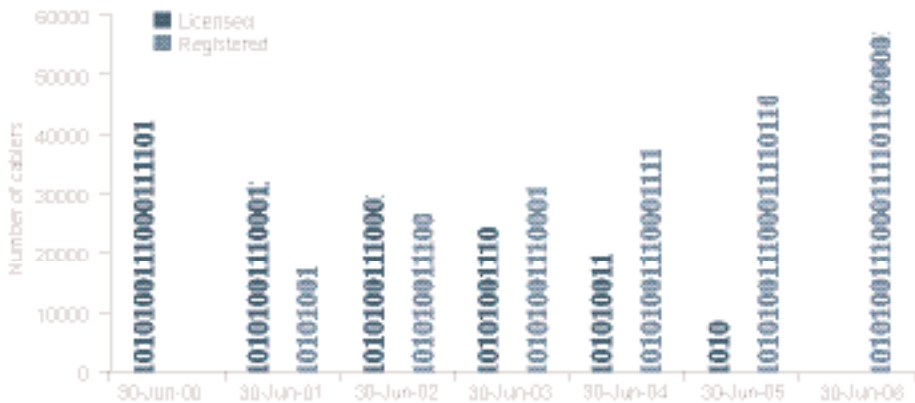
- open—covering all types of residential and commercial cabling work;
- restricted—covering a restricted range of cabling work typically conducted in residential and small business settings; and
- lift—covering telecommunications cabling for lift installations.

Details of the three types of registration are set out in the *Telecommunications Cabling Provider Rules 2000*.

Cablers must meet ACMA competency requirements that address health, safety and network integrity issues prior to being granted registration.

⁶ Future Exploration Network, *Future of Media: Report*, July 2006

Figure 3.14: Number of cabler licences and cabling registrations, 30 June 2000 to 30 June 2006



Source: ACMA

Since 30 June 2002, the total number of customer cablers in the industry has remained relatively stable—as the number of licensed cablers decreased, there was a steady increase in the number of registered cablers.

Industry indicators – allocations

Numbering allocations

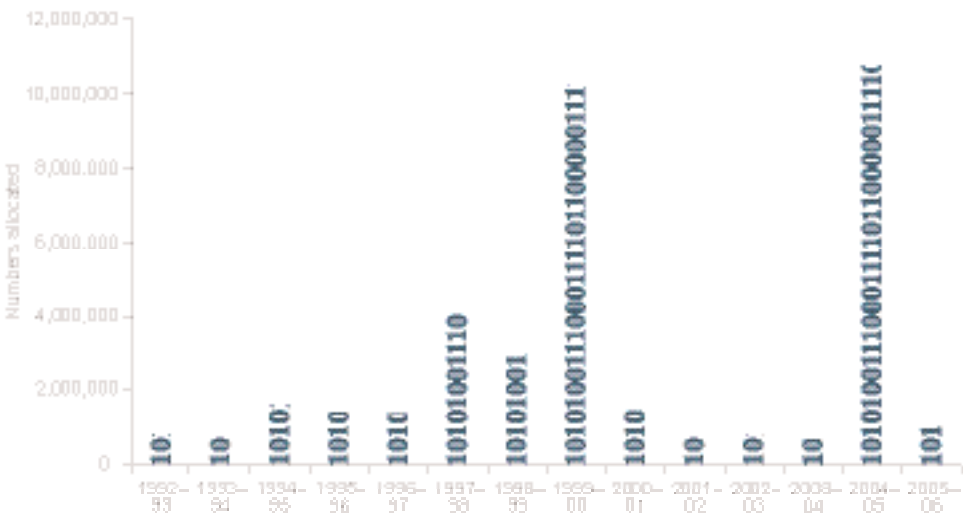
Aside from the indicators of industry size, subscriber numbers and revenues outlined above, ACMA's allocation of telephone numbers can be a useful measure of broad trends in the telecommunications industry. The allocation and transfer of numbers can indicate the level of competition in the market or the impact of new technologies or services.

The *Telecommunications Numbering Plan 1997* (the Numbering Plan) made under the Telecommunications Act provides for call charge and associated services, changes to numbers, technology affecting numbers, and the use, transfer, portability, surrender and withdrawal of numbers.

Geographic numbers are used to provide access to local telephone services and related voicemail services, facsimile services, internet dial-up services and termination numbers for freephone and local rate services.

Total allocations of geographic numbers decreased significantly in 2005–06 from 10,756,000, in the previous year, to 991,000 (see Figure 3.15). This trend is mirrored by the zero allocation in 2005–06 of data network access service (DNAS) numbers, which are used mainly for the provision of dial-up internet services.

Figure 3.15: Geographic number allocations, 1992–93 to 2005–06



Source: ACMA

Fluctuations in geographic number allocation suggest that the market may have absorbed the new CSPs that were responsible for the rise in geographic numbering allocations in 2004–05. The significant drop in allocations in 2005–06 signals a return to the low level in allocations of geographic numbers between 2001–02 and 2003–04.

The considerable decrease in allocations of digital mobile numbers illustrated in Table 3.4 can be attributed to technological developments in the industry, which have increased numbering efficiency. The allocation of pre-paid mobile numbers at service activation (not when the SIM card is manufactured) and the use of a single number to carry both voice and voice mail services (rather than two separate mobile numbers per service) has resulted in fewer numbers being allocated. The market may also be approaching saturation—during 2005–06 the cumulative total of digital mobile allocations approached a number twice that of Australia’s population. See Appendix 3.3 for further information on telecommunications numbering data.

Table 3.4: Demand for digital mobile numbers, 1999–2000 to 2005–06

YEAR	Allocated	Surrendered	Net increase	Cumulative total
2005–06	500,000	910,000	–410,000	37,110,000
2004–05	6,500,000	1,000,000	5,500,000	37,520,000
2003–04	2,420,000	0	2,420,000	32,020,000
2002–03	3,300,000	400,000	2,900,000	29,600,000
2001–02	500,000	500,000	0	26,700,000
2000–01	2,500,000	100,000	2,400,000	26,700,000
1999–2000	6,000,000	0	6,000,000	24,300,000

Source: ACMA

Internet domain name allocations

Another useful industry indicator is the allocation of internet domain names. The not-for-profit organisation au Domain Administration Ltd (auDA) was endorsed by the Australian Government in December 2000 to administer the .au country code top level domain.

During 2005–06, the number of registered domain names in the five second level domains available to the public, charities or privately owned organisations—.com.au, .org.au, .asn.au, .net.au and .id.au—increased from 551,291 in 2004–05 to 706,128. The .com.au second level domain continues to remain the most popular, with 612,918 names registered at 30 June 2006, or almost 87 per cent of all registered domain names.

Table 3.5: Internet domain name administration, 2002–03 to 2005–06

	2002–03	2003–04	2004–05	2005–06
auDA accredited registrars	19	20	21	23
Notified resellers	664	1,030	1,732	1,925
<i>Registered domain names</i>	347,576	443,128	551,291	706,128

Source: auDA and ausRegistry

Industry indicators – number portability

The ACCC has directed that consumers should be able to transfer, or port, their telephone number from one service provider to another for the following service types:

- local numbers—from 1 January 1998;
- freephone and local rate numbers—from 16 November 2000; and
- mobile numbers—from 25 September 2001.

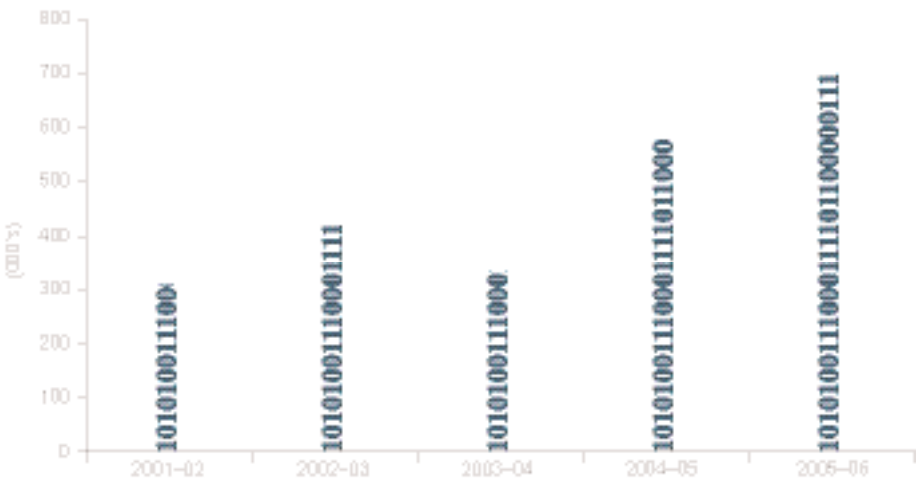
The capacity to port telephone numbers facilitates competition by allowing consumers to select the CSP whose services best suit their needs, without changing their telephone number. Industry participants develop more competitive service offerings to attract new subscribers from their competitors. However, low volumes of ports do not necessarily mean that competitive benefits are not being realised, since consumers may benefit by CSPs retaining customers through improved service offerings. Conversely, high porting volumes may be the result of special promotions or unrelated changes to the industry, for example, the closure of a network.

Local number portability

During 2005–06, the total volume of local numbers ported was 697,715, an average of 58,143 per month (see Figure 3.16). This represents a 17 per cent increase from the 579,537 local numbers ported in 2004–05.

This increase in the 2005–06 year was smaller than that of the previous year (73 per cent increase in 2004–05), but this reflected a low volume in 2003–04. The high volume of local number ports over the last two years might reflect the attraction of ‘bundled’ service offerings, which were not as prevalent in previous years.

Figure 3.16: Local number ports, 2001–02 to 2005–06



Source: Industry Number Management Services Pty Ltd

ACMA notes that the majority (90 per cent) of local number ports have been classified as complex ports, which suggests that the focus of porting may be on business customers. Complex ports rely on a manual process that is project-managed by the CSP, typically requiring some physical work to be undertaken at the customer’s site or the provision of a new transmission link to the customer’s site. On average, complex ports took 44 calendar days to complete.

On 11 May 2006, following wide consultation, ACMA granted a local number port exemption for Hutchison’s LocalZone service. ACMA was satisfied that it would not be practicable for Hutchison to supply local number porting on the LocalZone service, which provides a combined mobile and local service on one handset, and that failing to grant the exemption would impose an undue financial impost on Hutchison. The exemption is valid to 30 November 2007, with a number of conditions imposed by ACMA to reduce the impact on consumers.

Freephone and local rate number portability

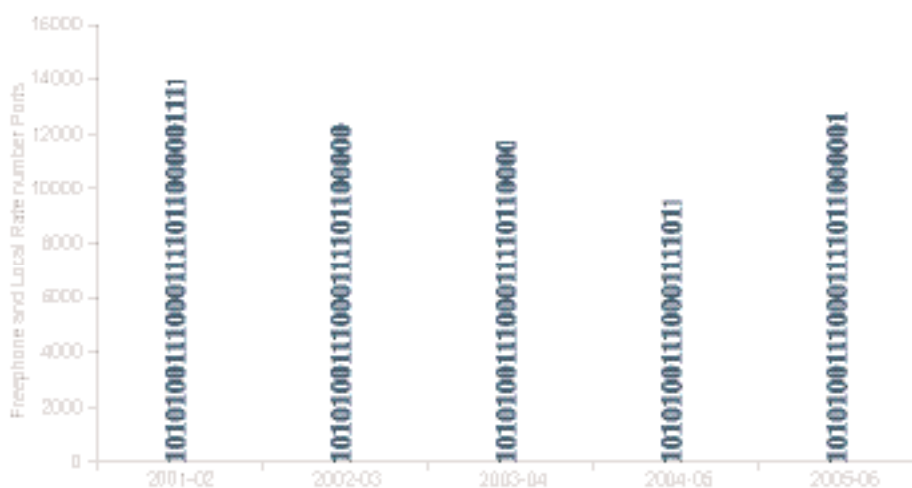
Freephone and local rate numbers (FLRNs) are used by organisations to market their business with a number which may be called at no or low cost, for example, the Department of Immigration and Multicultural Affairs' Work Rights number 1800 040 070 or Centrelink's 131 021.

Industry Number Management Services Pty Ltd has been delegated the management of these numbers on ACMA's behalf, including allocation and surrender of numbers.

There were 12,777 FLRNs ported during 2005–06, a 25 per cent increase on the 9,545 ports in 2004–05 (see Figure 3.17), reversing the decline experienced in the preceding three years.

Since November 2000, when portability for FLRNs was introduced, a total of 60,384 services have been ported (to 30 June 2006).

Figure 3.17: Freephone and local rate number ports, 2001–02 to 2005–06



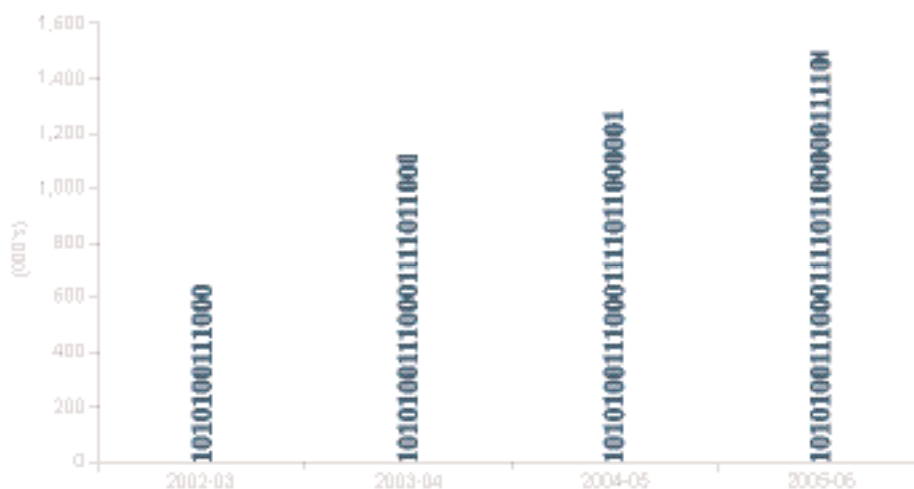
Source: ACMA

Mobile number portability

Mobile number portability (MNP) in Australia is an example of successful industry collaboration in creating and implementing an efficient process that benefits consumers. The MNP solution in Australia provides the ability for a customer to port in minutes in circumstances where all participants' systems are operating efficiently, because there is no need for network development to facilitate a number port. However, transaction delays by one industry participant may impact adversely on the porting performance of all industry participants.

During 2005–06, there were 1,494,630 mobile numbers ported, representing an increase of 16 per cent (see Figure 3.18). Of those, 1,341,565 were inter-network ports and 153,065 were intra-network ports. Intra-network ports include ports occurring in the same network between different service providers, for example, between resellers on the same network.

Figure 3.18: Mobile number ports, 2002–03 to 2005–06



Note: does not include porting volumes for 2001–02—MNP was introduced in September 2001

Source: ACMA

Since the introduction of MNP in September 2001, more than 4.8 million mobile numbers have been ported.

The *ACIF C570: 2005 Mobile Number Portability* industry code outlines two key MNP performance metrics. Industry participants are required to complete:

- 90 per cent of mobile number ports within three hours; and
- 99 per cent of mobile number ports within two days.

Industry performance against these measures is calculated on a percentage basis by quarter. Consolidated industry performance in 2005–06 is outlined in Table 3.6.

Table 3.6: Quarterly average time taken to port mobile numbers, 2005–06

Quarter	Within 3 hours	Within 2 days
July–Sep 05	94	100
Oct–Dec 05	98	100
Jan–Mar 06	83	100
Apr–Jun 06	92	99

With the exception of the third quarter, the industry met its obligation to complete at least 90 per cent of all ports within three hours. Mobile carriers are consistently exceeding the three-hour performance measure, with the exception of one mobile carrier, which failed to meet the minimum requirement in three out of four quarters in 2005–06. This has impacted on the industry's overall performance, hence the unsatisfactory result in the third quarter. ACMA has sought an explanation from the mobile carrier regarding its MNP performance.

In relation to the two-day performance measure, industry's overall performance was well above requirements.

Pre-selection and call over-ride

Pre-selection and call over-ride features encourage CSPs to compete for customers with cheaper call prices, attractive pricing plans and service features.

Pre-selection means that customers are not tied to the provider of their standard telephone service for specific call types. Customers have the ability to nominate an alternative CSP to supply all calls in the pre-selection basket, including:

- national long distance calls;
- international direct-dial calls (0011);
- certain operator-assisted services;
- international ring-back pricing code (0012) calls that advise a customer of the cost of a recently completed call; and
- calls from fixed to mobile phones.

However, customers can also use a four-digit over-ride code to bypass their pre-selected service provider to use another provider on a call-by-call basis.

The regulatory framework provides for ACMA to grant exemptions to CSPs from complying with statutory pre-selection obligations. During the reporting year, one exemption (granted in 2000) remained in force for calls made from fixed services using Telstra's Communic8 product. Communic8 is a pre-paid fixed-line service, aimed at end-users in residential share households, which allows subscribers to use other providers' pre-paid cards in conjunction with the service.

Broadcasting industry

Broadcasting services in Australia are subject to the regulatory regime set out in the *Broadcasting Services Act 1992* (the Broadcasting Services Act). The only exception to this is the national services, the Australian Broadcasting Corporation (ABC) and the Special Broadcasting Service (SBS), which operate under their own legislation and charters⁷.

The Broadcasting Services Act identifies seven generic categories of broadcasting services:

- national broadcasting
- commercial broadcasting
- community broadcasting
- subscription broadcasting
- subscription narrowcasting
- open narrowcasting
- international broadcasting⁸

⁷ Both the ABC and SBS are subject to some aspects of the complaints regime of the Broadcasting Services Act.

⁸ An international broadcasting service may also fall into another category of broadcasting services.

National broadcasting services

National broadcasting services are free-to-air radio and television services provided by the ABC and SBS. Both organisations are funded by the Australian Government on a triennial basis.

Australian Broadcasting Corporation

Radio

The ABC provides the following radio services:

- Local Radio, which is provided on 60 stations throughout Australia;
- Radio National, national talk network;
- Classic FM, national classical music network;
- Triple J, national youth network;
- NewsRadio, national rolling news network and broadcasts of parliament;
- Radio Australia, an Asia–Pacific network broadcast via shortwave, satellite and online; and
- Remote Indigenous Broadcasting Services (RIBS), formerly the Broadcasting for Remote Aboriginal Community Scheme (BRACS).

Table 3.7: Distribution of ABC radio transmitters within Australia, 2005

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total
Local Radio	1	58	15	68	13	18	24	41	238
SBRS	–	4	25	29	9	1	–	47	115
Radio National	1	52	15	87	18	13	21	50	257
SBRS	–	2	11	12	2	–	–	17	44
Classic FM	1	19	2	18	6	2	11	8	67
SBRS	–	4	2	5	3	–	–	7	21
Triple J	1	18	2	13	5	2	10	6	57
SBRS	–	1	6	17	9	1	–	39	73
NewsRadio	2	3	1	2	1	2	1	1	13
Domestic Shortwave	–	–	3	–	–	–	–	–	3
RIBS	–	–	33	25	4	–	–	14	76
Total	6	161	115	276	70	39	67	230	964

SBRS: Self Help Broadcasting Reception Scheme

Source: Australian Broadcasting Corporation Annual Report 2005

Television

The ABC provides the following television services:

- ABC TV, national free-to-air analog channel;
- ABC2, digital free-to-air channel featuring new and time-shifted ABC programming; and
- ABC Asia–Pacific, free-to-air satellite television.

Table 3.8: Distribution of ABC television transmitters within Australia, 2005

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total
Digital	3	39	3	29	7	5	33	18	137
Analog	4	93	16	122	33	46	53	73	440
SBRS	1	58	67	96	59	14	36	111	442
RIBS	–	–	33	26	4	–	–	14	77
Total	8	190	119	273	103	65	122	216	1,096

Source: Australian Broadcasting Corporation Annual Report 2005

Other services

The ABC also provides the new media and digital services ABC Online, ABC Broadband and DIG internet radio.

Special Broadcasting Service

SBS was established to provide multilingual and multicultural radio and television services that inform, educate and entertain all Australians and, in doing so, reflect Australia's multicultural society.

Radio

SBS Radio broadcasts in 68 languages to a five-signal network in all capital cities and key regional centres.

Television

SBS Television broadcasts programs in more than 60 languages. SBS provides an all-news digital channel, the World News Channel, which broadcasts 20 hours a day, and SBS Essential, an electronic programming and information guide.

SBS estimates that its analog service reaches 95 per cent of the Australian population and its digital services 80 per cent.

Other services

SBS Online provides additional and enhanced content from SBS television and radio in 68 languages.

Commercial broadcasting services

Commercial broadcasting services are free-to-air services that provide programs that are aimed at a general audience. They are usually funded by advertising revenue and are operated for profit or as part of a profit-making enterprise.

Commercial radio and television broadcasting services are licensed to operate within a specified area.

ACMA annually collects and publishes data on the broadcasting industry's financial indicators. The data used below is drawn from the *Broadcasting Financial Results 2004–05*, the most recent data available.

Ownership and control rules

The ownership and control rules contained in the Broadcasting Services Act prohibit a person from controlling more than two commercial radio licences in the one licence area. Further, a person can control only one commercial television licence in the one licence area, and a person may not control commercial television licences that, when their licence area populations are combined, can reach more than 75 per cent of the Australian population.

The legislation also contains restrictions on controlling different forms of media in the one licence area. The current rules prohibit a person from controlling a commercial television licence and a commercial radio licence in the same licence area, or controlling a commercial television or radio licence in a licence area and a newspaper associated with that licence area. There are similar restrictions on a person holding directorships and companies that control such licences or newspapers.

Under Schedule 1 to the Broadcasting Services Act, certain levels of ownership in a licensee or other entity are enough for there to be 'control'. Hence, the restrictions apply both to 'ownership' and to 'control'.

The government's proposed media reform agenda was contained in a discussion paper that was released in March 2006. The government has since introduced legislation to give its reforms a statutory framework.

Commercial radio services

Since the Broadcasting Services Act was introduced in 1992, 124 new analog commercial radio broadcasting licences have been allocated. At July 2006, the total number of commercial radio broadcasting licences was 274, including 13 non-broadcasting services bands services. See Appendix 3.4 for commercial radio licensing data.

Control of commercial radio services

The pattern of commercial radio broadcasting licence ownership shows a divide between capital city and regional area licences. The Austereo Group, Australian Radio Network (ARN) and DMG Radio own a significant number of capital city commercial radio broadcasting licences. Macquarie Regional Radioworks (MRR), Broadcast Operations and Grant Broadcasters own the three largest collections of regional commercial radio broadcasting licences.

There are 12 radio licence owners who control five or more commercial radio broadcasting licences. These are ACE Radio Broadcasters, Alice Springs Commercial Broadcasters, Austereo Group, ARN, Broadcast Operations, DMG Radio, Elmie Investments, Grant Broadcasters, MRR, PRIME, Redwave Media, Rural Press and Southern Cross Broadcasting. Three companies (WIN Corporation, PRIME and Southern Cross Broadcasting) control radio and television licences in separate markets.

There are 24 radio licence owner/controllers who hold fewer than five licences each.

Commercial radio revenue and profitability

In 2004–05⁹, the commercial radio industry generated revenue of \$944.9 million, which represents a 10.8 per cent increase compared with 2003–04. In 2004–05, the sale of airtime generated \$898.5 million in service revenue, an increase of 11.7 per cent over the 12 months and accounting for 95 per cent of revenue generated by the radio industry. Table 3.9 provides a summary of the revenue performance over the five financial years from 2000–01.

Table 3.9: Revenue performance in metropolitan and regional radio markets, 2000–01 to 2004–05

Market	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
Metropolitan	519.0	505.1	526.3	587.4	654.0	11.3
Regional	227.6	225.3	247.2	265.1	290.9	9.7
Total	746.6	730.4	773.5	852.5	944.9	10.8

Source: ACMA

In 2004–05, the FM sector generated \$694.4 million in revenue—a 16 per cent increase from the previous reporting period and representing 73.5 per cent of the total revenue generated by the radio industry. The AM sector generated revenue of \$250.5 million, representing a 1.3 per cent decrease from the previous reporting period. Table 3.10 shows the breakdown of industry revenue for FM and AM radio stations.

Table 3.10: Revenue performance for FM and AM radio stations, 2000–01 to 2004–05

Market	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m ¹⁰	2004–05 % change
FM	512.4	506.8	544.6	598.7	694.4	16
AM	234.2	223.6	228.9	253.8	250.5	–1.3
Total	746.6	730.4	773.5	852.5	944.9	10.8

Source: ACMA

The metropolitan radio industry increased profit before interest and tax (PBIT) by 17.3 per cent over the 12 months ending 30 June 2005. The metropolitan markets generated almost \$135 million in PBIT, accounting for the majority (65.93 per cent) of the industry's profit performance. Regional radio stations recorded a significant increase in PBIT of 103.8 per cent over the same period. Table 3.11 provides a summary of PBIT generated by metropolitan and regional radio markets over the five financial years to 30 June 2005.

Table 3.11: Profit before interest and tax in radio markets, 2000–01 to 2004–05

Market	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
Metropolitan	126.1	90.0	70.5	114.8	134.7	17.3
Regional	48.1	35.8	55.3	34.2	69.6	103.8
Total	174.1	125.9	125.8	149	204.3	37.1

Source: ACMA

⁹ ACMA collects and publishes financial results. Data for 2005–06 will be available in 2007.

¹⁰ These figures exclude revenue generated by the 13 non-broadcasting services bands commercial radio licences of \$2.9 million over the 2004–05 financial year.

The FM sector generated a profit of \$172.6 million, which represents a significant proportion (84.5 per cent) of the total PBIT recorded by the commercial radio industry in 2004–05. The strong profit performance of the FM sector is due to its ability to attract the larger share of industry revenue. Profit growth, as measured by percentage gain in PBIT over the last 12 months, was similar for the two sectors. The AM sector reported 41.4 per cent PBIT growth compared with PBIT growth in the FM sector of 36.4 per cent. Table 3.12 shows the profit breakdown for the FM and AM sectors over the five financial years to 30 June 2005.

Table 3.12: Profit before interest and tax for FM and AM radio stations, 2000–01 to 2004–05

Market	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
FM	160.6	119.2	107.1	126.6	172.6	36.4
AM	13.6	6.7	18.7	22.4	31.7	41.4
Total	174.1	110.1	125.8	149.0	204.3	37.1

Source: ACMA

Non-broadcasting services bands commercial radio services

At August 2006, 13 non-broadcasting services bands commercial radio licences were current (see Appendix 3.4 for a list of licensees).

Commercial television services

Since 1992, the number of commercial television services has increased from 44 to 54. See Appendix 3.4 for a list of commercial television licensees.

Control of commercial television services

The pattern of television ownership also shows a divide between capital city and regional (and remote) areas. Capital city television licence ownership is dominated by three networks—Seven, Nine and Ten.

Regional television licence ownership is dominated by Prime Television (with stations affiliated with the Seven Network), Southern Cross Broadcasting (with most stations affiliated with the Ten Network) and WIN Corporation (with stations affiliated with the Nine Network).

Imparja Television holds licences in the remote central and eastern Australia licence areas.

Commercial television revenue and profitability

The commercial television industry reported \$4,119.3 million in revenue in 2004–05, a 10.6 per cent increase in revenue over the previous year. The main driver of service revenue for the industry was the sale of airtime to advertisers, which accounts for approximately 86.5 per cent of the total revenue generated by the industry.

The metropolitan television markets reported a 9.8 per cent increase in revenue over the 12 months ending 30 June 2005. The regional television markets reported a 5.8 per cent increase in revenue generated over the same period.

The three major television networks and their affiliate licensees generated \$4,045.5 million of this revenue. This sum was shared thus:

- Nine Network and affiliates—\$1,644.1 million (40.7 per cent);
- Seven Network and affiliates—\$1,203.1 million (29.7 per cent); and
- Ten Network and affiliates—\$1,198.3 million (29.6 per cent).

Table 3.13 shows a breakdown of industry revenue performance for metropolitan and regional television markets.

Table 3.13: Revenue performance in metropolitan and regional television markets, 2000–01 to 2004–05

Market	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
Metropolitan	2,647.8	2,603.9	2,756.1	2,952.4	3,241.9	9.8
Regional	614.9	599.8	665.5	739.0	782.2	5.8
Total	3,347.3	3,233.1	3,451.1	3,724	4,119.3	10.6

Source: ACMA

The commercial television industry achieved aggregate profits of \$781.3 million (down by 10.6 per cent compared with 2003–04). Both metropolitan and regional markets reported a decrease in profitability from the previous reporting period:

- metropolitan television markets reported an 11.2 per cent decrease in PBIT over the 12 months ending 30 June 2005; and
- regional television stations reported an 8.8 per cent decrease in PBIT over this period.

Table 3.14 provides a summary of the commercial television industry's profit performance over the five financial years from 2000–01.

Table 3.14: Profit before interest and tax in television markets, 2000–01 to 2004–05

Market	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
Metropolitan	507.9	492.4	581	644.8	572.3	–11.2
Regional	171.0	150.2	180.4	229.1	209.0	–8.8
Total	679.0	642.6	761.3	873.9	781.3	–10.6

Source: ACMA

Commercial television program expenditure

Commercial television licensees spent \$1,163.4 million on programming for the 2004–05 reporting period, an increase of 15.9 per cent over the previous year.

Of the total programming expenditure, \$812.8 million was spent on Australian programs, representing an increase of 20.5 per cent from 2004–05 and accounting for nearly 70 per cent of total program expenditure. However, there has been a 1.4 per cent decrease in expenditure in Australian drama in each of the last two years. See Chapter 9 for further discussion on commercial television program expenditure.

Expenditure on overseas programming increased by six per cent over the reporting period. Table 3.15 provides a breakdown of total expenditure on programming by commercial television stations over the five financial years from 2000–01.

Table 3.15: Expenditure on programming by commercial television licensees, 2000–01 to 2004–05

Origin of programming	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
Australian drama programs	105.0	114.7	130.8	115.4	113.8	–1.4
Total Australian	701.5	706.3	723.0	674.7	812.8	20.5
Overseas drama	270.2	255.9	281.3	226.7	322.7	42.3
Total overseas	286.4	300.7	307.3	330.8	350.6	6.0
Total	987.9	1,007	1,030.3	1,005.5	1,163.4	15.7

Source: ACMA

Commercial television licensees spent \$21.5 million on children’s programming in the financial year to 30 June 2005, an increase of 80.7 per cent from the previous reporting period.

Of the total expenditure on children’s programming, the majority (62.3 per cent) was spent on children’s drama. Expenditure on children’s drama increased by 43.8 per cent between 2003–04 and 2004–05 and by 127.9 per cent for other children’s programming. Table 3.16 provides a breakdown of expenditure by television licensees on children’s programming.

Table 3.16: Expenditure on children's programming by commercial television licensees, 2000–01 to 2004–05

Origin of programming	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
Children's drama	9.5	13.5	15.1	9.3	13.4	43.8
Children's other	8.0	4.2	3.6	3.6	8.1	127.9
Total	17.5	17.7	18.7	11.9	21.5	80.7

Source: ACMA

Non-broadcasting services bands commercial television services

No non-broadcasting services bands commercial television licences have been allocated.

Community broadcasting services

Community broadcasting services are free-to-air services that serve the needs and interests of particular communities. There are now few geographical communities in Australia that do not have at least one community radio service.

Key features of community services that distinguish them from commercial services are that they must not be operated for profit or as part of a profit-making enterprise, and they must encourage the participation of community members in all aspects of the operation of the service, and the selection and provision of programs on the service.

Five-year licences to provide community radio and television services that use the broadcasting services bands are allocated by ACMA using a merit-based allocation process. Licences may also be allocated to community radio and television services that do not use the broadcasting services bands.

Community radio services

Since 1992, the number of community radio broadcasting licences has increased from 102 to 361. At July 2006, ACMA had been advised that 353 services were being provided.¹¹

¹¹ The remaining services had not yet commenced operation after the allocation of their licences. Licensees must commence their service within 12 months of being allocated their licence (or such longer time as determined by ACMA).

Table 3.17: Community radio broadcasting services by community of interest served, August 2006

Community interest	Number	Percentage of total
Aboriginal	84	23.27
Arts	1	0.28
Community access	1	0.28
Country and sport	2	0.55
Educational	5	1.39
Educational/specialised music	3	0.83
Ethnic – general	6	1.66
Ethnic – Portuguese	1	0.28
Gay and lesbian	1	0.28
General geographic area	172	47.65
Mature age	2	0.55
Music – fine music	4	1.11
Music – progressive	2	0.55
Organisations serving people aged 50+ yrs	2	0.55
Print handicapped	12	3.32
Religious – Christian	34	9.42
Religious – Islamic	1	0.28
Senior citizens	3	0.83
Torres Strait Islanders	16	4.43
Youth	8	2.22
Youth and students	1	0.28
Total	361	100

Source: ACMA

Community television services

In 2004, four permanent community television (CTV) licences were allocated to serve Sydney, Melbourne, Brisbane and Perth:

- Sydney—allocated to Television Sydney Ltd (TVS), which has two member organisations:
 - ETC TV (Education Training Community Television Limited) in partnership with two partners—Metro Screen and University of Western Sydney; and
 - SLICE TV (Sydney Local Information Community Educational Television).
- Melbourne—allocated to Melbourne Community Television Consortium Ltd (MCTC). MCTC is made up of 33 not-for-profit community groups, which provide programs across a range of genres and in 20 different languages.
- Brisbane—allocated to Briz31 Ltd, which has a broad membership base and links with Queensland University of Technology and the Seymour Group (private development and investment company).
- Perth—allocated to Channel 31 Community Educational Television Ltd, known as Access 31. Membership of Access 31 is open to individuals, groups and corporations.

There are also 79 community television services provided in remote Indigenous communities¹².

Subscription broadcasting services

ACMA may issue licences to provide subscription broadcasting television services on application and payment of a determined fee. These licences do not have geographical limitations.

Subscription fees continue to be the predominant source of revenue for subscription services.

There are currently 2,585 subscription television broadcasting licences on allocation—2,815 licences have been allocated since 1992, of which 230 have been surrendered.

¹²These services were known as Broadcasting for Remote Aboriginal Communities Scheme (BRACS) services before 1992. After the introduction of the Broadcasting Services Act, BRACS licences were converted to normal community broadcasting licences. They are now known as Remote Indigenous Broadcasting Services.

Open narrowcasting services

An open narrowcasting service is a free-to-air broadcasting service whose reception is limited:

- by being targeted to special interest groups;
- by being intended only for limited locations;
- by being provided during a limited period or to cover a special event;
- by providing programs of limited appeal; or
- for another reason.

The Broadcasting Services Act provides for open narrowcasting services to operate under a class licence. Persons providing such a service are not required to obtain a licence under that Act. However, if they are intending to use the radiofrequency spectrum to provide the service, they must obtain a licence under the *Radiocommunications Act 1992*, which authorises the operation of a transmitter.

Since 1992, 243 apparatus licences authorising transmission of high-power open narrowcasting radio services and two licences authorising transmission of open narrowcasting television services have been allocated.

The most common program formats provided by open narrowcasting radio services include racing and tourist information, non-English language, specialised music (such as dance, jazz and country music) and religious programming.

The television services provide an Indigenous media service in Broome, Western Australia, licensed to Goolarri Media Enterprises Pty Ltd, and a tourist information service in Darwin, Northern Territory, licensed to Info TV Pty Ltd.

Of the 2,205 licences issued to provide low-power open narrowcasting services:

- 1,823 are current;
- 132 have been surrendered;
- 37 have been cancelled; and
- 213 have expired.

One licence is used to provide a television service in Jindabyne, New South Wales.

International broadcasting licences

This category of licence applies to any service targeted to audiences outside Australia using a radiocommunications transmitter inside Australia.

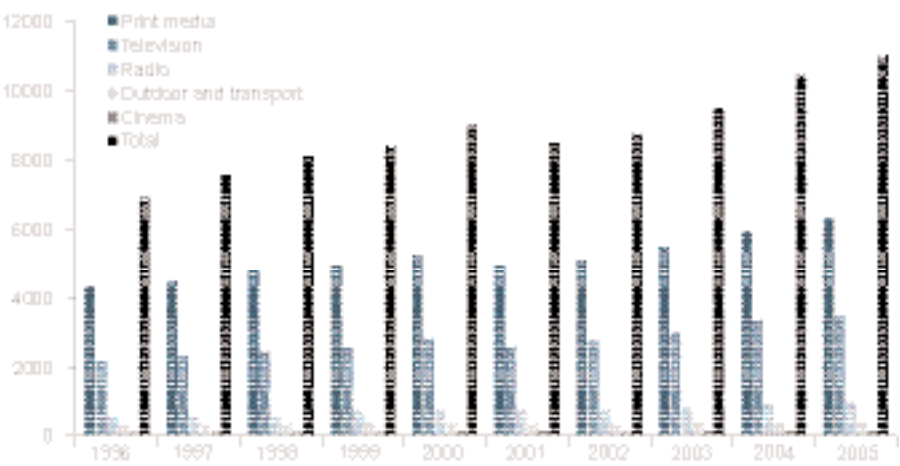
Ten international broadcasting licences have been allocated to two licensees:

- four to HCJB (Heralding Christ Jesus’ Blessings) Australia; and
- six to CVC Network Ltd, the media arm of Christian Vision, a UK non-profit charitable company. Both licensees provide Christian services to India, Pakistan, Sri Lanka and other parts of the Asia-Pacific region.

Advertising expenditure

Data from the Commercial Economic Advisory Service of Australia (CEASA) shows that advertising expenditure across the main media categories (print, television, radio, outdoor and cinema) has, with the exception of a drop in 2001–02, risen consistently over the past decade (Figure 3.19).

Figure 3.19: Distribution of advertising expenditure across main media, 1996–2005



Source: CEASA, Distribution of advertising expenditure across main media 1996–2005

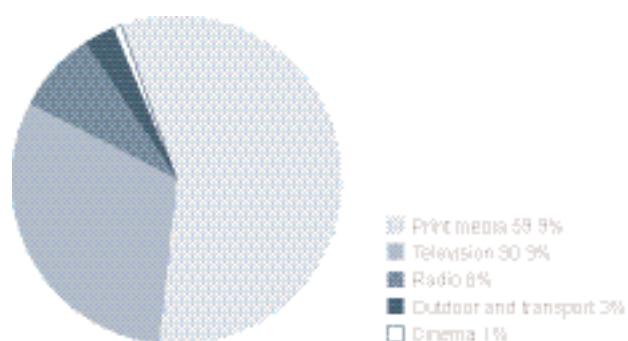
As shown in Figure 3.20, in calendar year 2005, print media (56.9 per cent), television (30.9 per cent) and radio (eight per cent) are the main media categories that attract the majority of advertising expenditure.

Advertising expenditure on free-to-air television grew by 2.4 per cent in 2005 to \$3.4 billion. As Pricewaterhouse Coopers (PWC) noted in their *Australian Entertainment and Media Outlook 2006–2010* report this increase ‘was despite a continuing decline in the number of free-to-air television viewers, occasioned by the proliferation of competing forms of media and entertainment.’¹³ Taking into consideration the ‘softening conditions’ experienced by the market in the early part of 2006, PWC has forecast further growth of two per cent in the 2006 calendar year.

CEASA figures show that advertising expenditure on radio (excluding community radio) grew by 6.6 per cent in 2005 to \$897 million. The latest data on the revenue performance of commercial radio demonstrates that there has been strong growth over the past financial year in the five main capital cities:

- Brisbane—increase of eight per cent to \$90.4 million;
- Melbourne—increase of six per cent to \$167.6 million;
- Perth—increase of five per cent to \$62 million;
- Adelaide—increase of 3.7 per cent to \$54.4 million; and
- Sydney—decrease of 1.9 per cent to \$221.6 million.¹⁴

Figure 3.20: Proportion of advertising expenditure by media category, 2005



Source: CEASA, *Distribution of advertising expenditure across main media 1996–2005*

¹³Pricewaterhouse Coopers, *Australian Entertainment and Media Outlook 2006–2010*

¹⁴Pricewaterhouse Coopers, radio revenue performance cited in Commercial Radio Australia media release, 2006

Subscription television industry

Subscription television (pay TV) has been available in Australia since mid-1995, and has grown to 1.73 million subscribers and being present in 24 per cent of Australian homes¹⁵. The market is not growing strongly and its structure has not changed over the past year.

The Australian pay TV industry has had lower take-up than in comparable markets. The United Kingdom has 44 per cent penetration, New Zealand 45 per cent and the United States has 70 per cent.

Foxtel has the strongest position in the Australian industry, with approximately 1.27 million subscribers¹⁶, and the most extensive geographic reach through its cable and satellite broadcasts. Its services are available through:

- hybrid fibre coaxial (HFC) cable to 70 per cent of homes in Adelaide, Brisbane, the Gold Coast, Melbourne, Perth and Sydney; and
- by satellite to cities where cable is not available and throughout Western Australia.

Telstra, which owns 50 per cent of Foxtel, offers its customers a ‘triple play’ bundle of pay TV, telephone and internet access services.

Optus, with 146,000 subscribers¹⁷, is a reseller of Foxtel’s content, together with two of its own channels. It supplies its subscription service through its HFC cable network in Melbourne, Sydney and Brisbane, together with telephone and internet services as part of its own triple play.

The other major supplier of subscription television is Austar, which has 570,878 subscribers¹⁸ in regional and rural areas receiving a (mostly) satellite-based service. Austar uses an HFC network in Darwin. Austar is also a reseller of Foxtel content.

Two network operators supply pay TV services over optical fibre networks:

- Neighbourhood Cable offers pay TV, internet access and VoIP services in parts of regional Victoria; and
- TransACT offers the same services, along with video-on-demand, to its Canberra and Queanbeyan customers.

Subscription television carries free-to-air broadcasts where agreements with the free-to-air broadcasters have been reached and on cable systems, which have additional capacity.

The Australian Subscription Television and Radio Association (ASTRA) estimates that 80 per cent of subscribers use a digitally transmitted service.

¹⁵ OzTAM Establishment Survey Q2, 2006

¹⁶ At 30 June 2006, Foxtel’s total number of subscribers was 1,272 million (this includes wholesale subscribers). Source: NewsCorp Financial Results

¹⁷ At the end of 2005, Source: Pricewaterhouse Coopers, Australian Entertainment and Media Outlook 2006–2010

¹⁸ At 30 June 2006. Source: Austar Financial Results

Further information about the communications industry

www.acma.gov.au/CommsReport

Appendixes

- 3.1 Telecommunications carrier licensing data
- 3.2 Telecommunications Industry Ombudsman scheme membership data
- 3.3 Telecommunications numbering data
- 3.4 Broadcast licensing data

Data updates

- ACMA, *Register of Licensed Carriers and Nominated Carrier Declarations* (updated regularly)
- Australian Consumer and Competition Commission (ACCC), *Market Indicator Report*
- Australian Mobile Telecommunications Association (AMTA), *Industry Statistics*
- Telecommunications Industry Ombudsman Member List
- AusRegistry, *Monthly AusRegistry General Report*
- Australian Subscription Television and Radio Association, *Subscription television trends*

Documents

- Australian Bureau of Statistics, *Internet Activity Report, Australia*, March 2005
- ACCC, *Snapshot of Broadband Deployment*, June 2006
- ACMA, *Communications Services Availability Report 2005–06*, November 2006
- ACMA *Cabling Provider Rules 2000*
- ACMA, *Broadcasting Financial Results 2004–05*, May 2006
- DCITA, VoIP report, November 2005
- Allen Consulting Group, *Australian Mobile Telecommunications Industry: Economic Significance*, report to AMTA, September 2005
- Australian Government initiative, *Backing Australia's Ability – Building our Future through Science and Innovation*
- Pricewaterhouse Coopers, *Australian Entertainment and Media Outlook 2006-2010*, June 2006

Organisations

auDomain Administration Limited (www.auda.org.au)

Australian Mobile Telecommunications Association (www.amta.org.au)

Australian Subscription Television and Radio Association (www.astra.org.au)

Australian Voice over IP Association (www.avoipa.com.au)

Commercial Radio Australia (www.commercialradio.com.au)

Communications Alliance (www.commsalliance.com.au)

Free TV Australia (www.freetvaust.com.au)

Internet Industry Association (www.iiia.net.au)

4 Industry compliance and consumer satisfaction

Overview

ACMA regulates the communications industry in conjunction with the ACCC. See Appendix 4.1 for a diagram of regulatory relationships in the communications sector.

A key premise of the communications legislation is that service providers should, within the legislated policy settings, take responsibility for their relationships with their customers or audiences. Self-regulation involves development of codes of practice by industry, with industry itself managing code compliance.

Industry codes may be submitted to ACMA for registration under the relevant legislation. The co-regulatory model comes into play in circumstances where ACMA takes enforcement action, such as investigating reported non-compliance or the issue or warnings of directions, in relation to a registered industry code.

Chapter 4 sets out the industry codes that have been developed and registered in 2005–06; complaints received by the TIO and the ACCC in relation to industry performance against industry codes and other regulations; industry compliance with registered codes; ACMA code compliance activity; and levels of consumer satisfaction in relation to telecommunications service providers and free-to-air television.



Telecommunications codes and compliance

ACMA code registration and compliance activity

ACMA registers industry codes under Part 6 of the *Telecommunications Act 1997*. At 30 June 2006, 26 telecommunications codes were registered by ACMA, as follows:

- 23 codes developed by ACIF (see Appendix 4.2 for details of ACIF code activity in 2005–06);
- the *Cabling Requirements for Business Code* developed by the Cabling Industry Committee;
- the *Australian eMarketing Code of Practice* developed by the Australian Direct Marketing Association (see Chapter 6); and
- the *Internet Industry Spam Code of Practice* developed by the Internet Industry Association (IIA) in conjunction with the Western Australian and South Australian Internet Associations (see Chapter 6).

During 2005–06, one telecommunications industry code compliance matter was referred to ACMA for investigation. In September 2005, the TIO provided information to ACMA about one service provider's compliance with *Industry Code ACIF C547:2004 Complaint Handling* (the Complaint Handling Code). At 30 June 2006, ACMA was continuing its investigation.

Refer to ACMA's *Annual Report 2005–06* for further information about ACMA's industry code activity.

Australian Competition and Consumer Commission

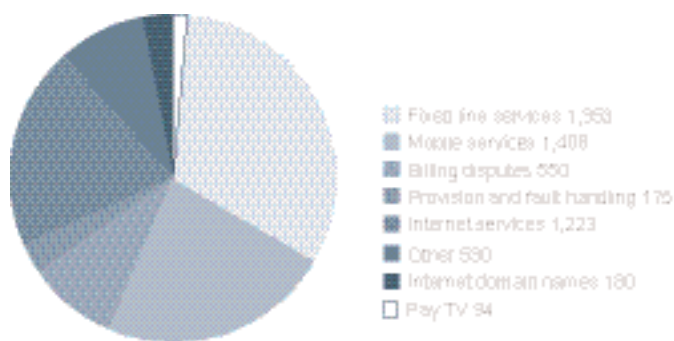
The ACCC regulates under the *Trade Practices Act 1974* (the Trade Practices Act). In addition to its general competition and consumer protection functions, the ACCC administers telecommunications industry-specific provisions under the Trade Practices Act in relation to:

- anti-competitive conduct under Part XIB; and
- the access regime under Part XIC, including the declaration of services, the arbitration of disputes and the development of pricing principles for particular services.

There were 6,113 communications complaints received by the ACCC relating to the Trade Practices Act in 2005–06, comprising telecommunications complaints, internet domain names and pay TV complaints.

Of the complaints made to the ACCC, 1,453 were recorded against Telstra, followed by Optus (584) and Primus (436). See Appendix 4.3 for telecommunications complaints to the ACCC by type from 2003–04 to 2005–06. Figure 4.1 illustrates the source of communications related complaints to the ACCC.

Figure 4.1: Complaints to the ACCC, 2005–06



Source: ACCC

Industry compliance with telecommunications codes

Telecommunications Industry Ombudsman

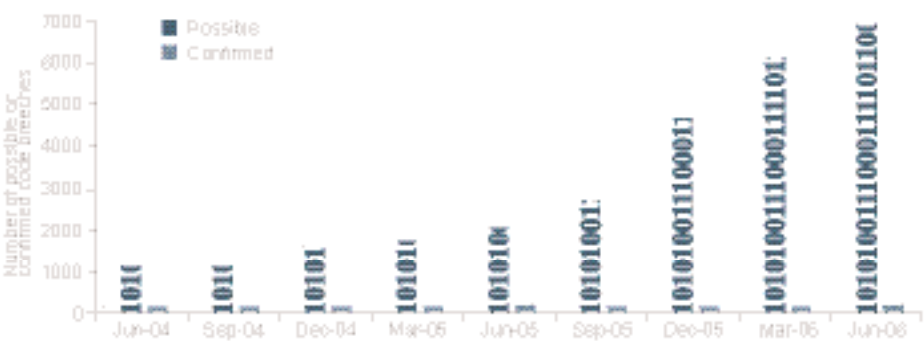
The TIO manages an independent scheme for the investigation and resolution of complaints about carriers and CSPs by residential and small business customers and is funded by its members.

In 2005–06, 127,479 complaint issues were recorded by the TIO, an increase of 26.4 per cent on 2004–05 and 87.4 per cent over the past two years (see Appendix 4.4 for detailed TIO complaints data).

Of the total number of complaint issues recorded in 2005–06, 20,640 related to ACIF codes, an increase of 205 per cent on 2004–05. The greater than seven-fold increase in complaints related to the Complaint Handling Code reflects, in part, a new approach taken by the TIO in seeking information from complainants (see Appendix 4.4).

Breaches recorded by the TIO identify both possible and confirmed code breaches. ACIF notes that while possible code breaches show a steady rise in numbers, the number of confirmed code breaches measured by the TIO has remained relatively static (see Figure 4.2).

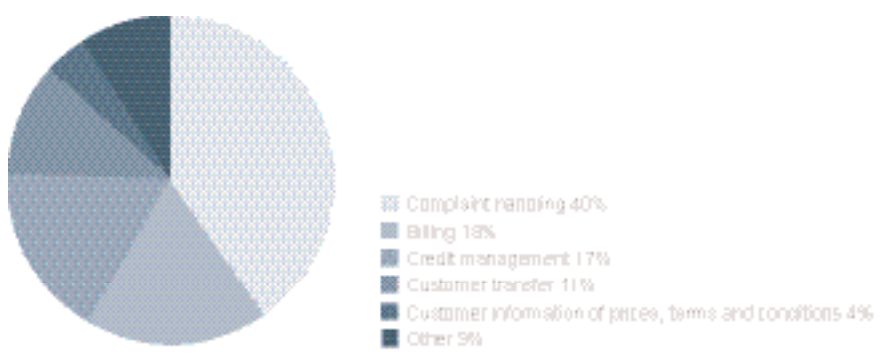
Figure 4.2: Quarterly TIO possible and confirmed code breaches, June 2004 to June 2006



Source: TIO

A total of 688 ACIF code breaches were confirmed by the TIO in 2005–06, up 16.8 per cent on the 589 complaints in 2004–05 and 162 per cent on the 263 complaints in 2002–03. Breaches of the Complaint Handling Code account for the largest proportion of complaints. In September 2005, ACMA commenced an investigation into one service provider’s compliance with the Complaint Handling Code, with the investigation still in train at 30 June 2006.

Figure 4.3: Confirmed ACIF code breaches, 2005–06



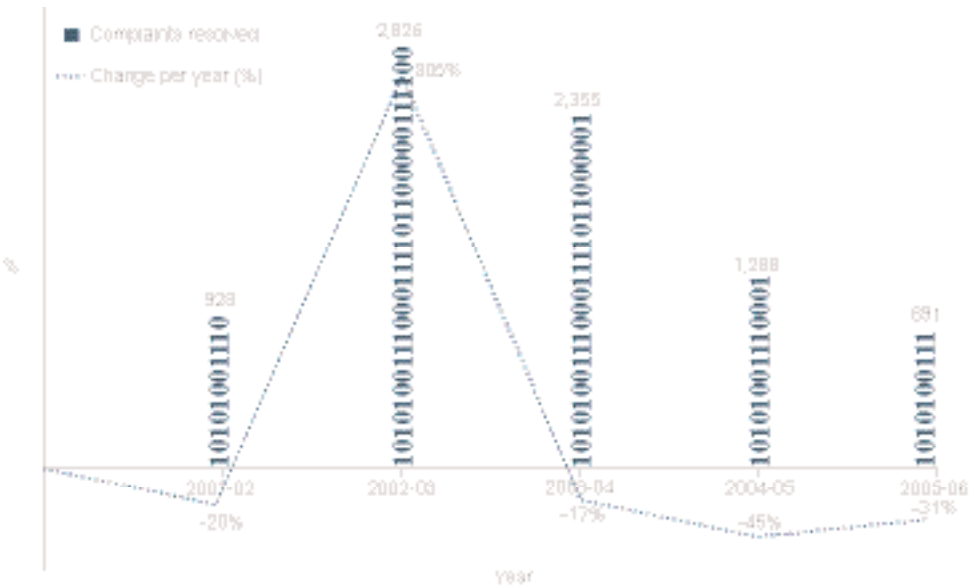
Source: TIO

Telephone Information Services Standards Council

The Telephone Information Services Standards Council (TISSC) is an industry body that sets standards for and handles complaints about the content and advertising of premium rate services accessed using a number beginning with 190. Premium rate services can be accessed by voice or fax and include telephone counselling, psychic lines and telephone sex services. The role of TISSC is not defined under legislation administered by ACMA, but instead through agreements between Telstra, as the provider of billing services for premium rate services, and providers of premium rate services.

The number of complaints resolved by TISSC about content and advertising is outlined in Figure 4.4. The continued decrease since 2002–03 and 2003–04 reflects the effects of regulatory measures to restrict internet diallers (which automatically rerouted calls to international numbers) and the migration of some voice and fax premium rate services to mobile premium services.

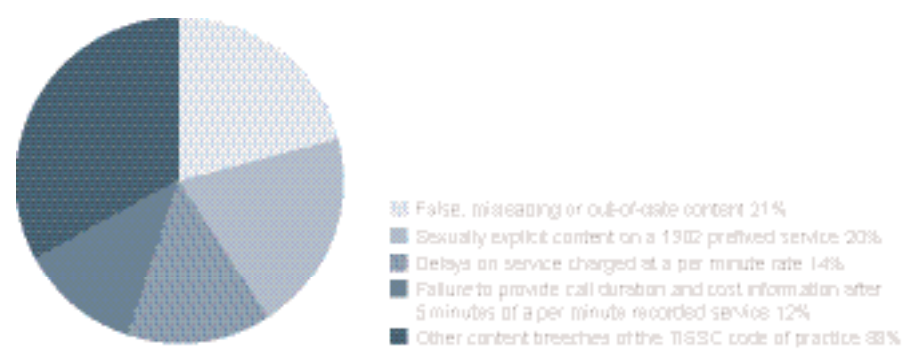
Figure 4.4: Premium services complaints resolved by TISSC, 2001–02 to 2005–06



Source: TISSC

In 2005–06, TISSC found that 339 services were in breach of its Code of Practice. The main categories of content breaches are illustrated in Figure 4.5.

Figure 4.5: Premium rate services – breaches of TISSC code, 2005–06



Source: TISSC

The major categories of advertising breaches were omission of service provider identification in advertising, as illustrated in Figure 4.6.

Figure 4.6: Categories of advertising breaches, 2005–06



Source: TISSC

Consumer satisfaction with telecommunications services

In conjunction with monitoring complaints and code breaches, consumer satisfaction surveys provide additional information on consumer experience with their communications services and service providers.

The consumer satisfaction survey data is sourced from Roy Morgan Research Single Source and covers two time periods, July 2004 to June 2005 and July 2005 to June 2006.

Table 4.1: Consumer satisfaction with telecommunications services, 2004 to 2006

Respondents were asked 'In the last 12 months, how well have each of the following service providers met your overall expectations?' Excludes 'no answer' and 'doesn't apply'								
	Exceeded my expectations		Mostly met my expectations		Sometimes met my expectations		Rarely met my expectations	
	July 2004– June 2005	July 2005– June 2006	July 2004– June 2005	July 2005– June 2006	July 2004– June 2005	July 2005– June 2006	July 2004– June 2005	July 2005– June 2006
Local telephone company	7.8%	8.2%	73.9%	73.3%	13.3%	13.5%	5.0%	4.9%
STD telephone company	7.0%	7.5%	75.4%	74.7%	12.9%	13.2%	4.7%	4.6%
International telephone company	7.4%	7.1%	73.5%	74.3%	13.7%	13.4%	5.5%	5.3%
Mobile phone service provider	9.4%	9.9%	72.5%	72.1%	13.1%	13.4%	5.0%	4.6%
Internet service provider	10.2%	11.2%	68.6%	68.9%	15.6%	15.3%	5.5%	4.6%

Source: Roy Morgan Research, annual sample=approximately 23,000 people aged 14+ years

Satisfaction levels (defined as 'exceeded' or 'mostly met expectations') were more than 80 per cent for all service provider types in the July 2005 to June 2006 period:

- The highest satisfaction levels were for long distance (STD) telephone companies, 82.2 per cent for July 2005 to June 2006.
- Internet service providers were the providers who most exceeded expectations (11.2 per cent for July 2005 to June 2006).
- Internet service providers 'exceeding expectations' increased from 10.2 per cent for July 2004 to June 2005 to 11.2 per cent for July 2005 to June 2006, while 'rarely meeting expectations' decreased from 5.5 per cent to 4.6 per cent over the same period.

The satisfaction data is fairly consistent over the two years for all provider types, with internet service provider satisfaction showing a small improvement.

Consumer likelihood to switch service provider companies provides another measure of consumer satisfaction with their current providers.

Table 4.2: Consumer likelihood to switch providers, 2004–2006

	Respondents were asked 'How likely would you be to switch companies, if you were able to buy that service from another company?' Excludes 'no answer' and 'doesn't apply'					
	Very or fairly likely to switch		Neither likely nor unlikely to switch		Very or fairly unlikely to switch	
	July 2004– June 2005	July 2005– June 2006	July 2004– June 2005	July 2005– June 2006	July 2004– June 2005	July 2005– June 2006
Local telephone company	13.5%	13.2%	29.2%	27.9%	57.3%	58.8%
STD telephone company	13.0%	12.8%	29.8%	28.3%	57.2%	58.9%
International telephone company	11.8%	11.5%	30.7%	29.1%	57.5%	59.5%
Mobile phone service provider	14.5%	13.9%	29.2%	28.2%	56.4%	57.9%
Internet service provider	16.8%	16.5%	30.6%	28.3%	52.5%	55.2%

Source: Roy Morgan Research, annual sample=approximately 23,000 people aged 14+ years

Likelihood of consumers to switch service providers ranged from:

- 11.5 per cent for international telephone companies, July 2005 to June 2006; to
- 16.5 per cent for internet service providers, July 2005 to June 2006.

The remainder of consumers were either 'unlikely' or 'neither likely nor unlikely' to switch providers.

Broadcasting industry codes

The *Broadcasting Services Act 1992* (the Broadcasting Services Act) requires industry groups responsible for representing the various broadcasting industries to develop codes of practice applicable to that section of the industry in consultation with ACMA.

The various sectors of the broadcasting industry and the national broadcasters (ABC and SBS) have codes of practice which cover most aspects of program content, including:

- classification (the portrayal of violence, sex and nudity, language, drugs and suicide);
- discriminatory material;
- accuracy and fairness in news and current affairs; and
- the handling of complaints.

ACMA may register broadcasting industry codes under section 123 of the Broadcasting Services Act. While ACMA investigates complaints about non-compliance with the codes of the national broadcasters, it does not register these codes. No broadcasting codes were presented to ACMA for registration in 2005–06.

ACMA provides an escalated complaints-handling mechanism for matters relating to broadcasting codes.

Industry-developed broadcasting codes

Free TV Australia is responsible for developing and reviewing the Commercial Television Industry Code of Practice.

Commercial Radio Australia (CRA) is responsible for developing and reviewing, in consultation with ACMA, the CRA Codes of Practice.

Australian Subscription Television and Radio Association is responsible for developing and reviewing, in consultation with ACMA, the following codes of practice:

- Subscription Broadcast Television Code
- Subscription Narrowcast Television Code
- Subscription Narrowcast Radio Code
- Open Narrowcast Television Code.

Australian Narrowcast Radio Association is responsible for the Open Narrowcast Radio Code of Practice.

Community Broadcasting Association of Australia (CBAA) is responsible for developing and reviewing, in consultation with ACMA, the CBAA Codes of Practice for community radio and community television.

Broadcasting code complaints and investigations

ACMA is required to investigate complaints about broadcasters that relate to possible non-compliance with a codes, if the complainants:

- have directed their complaints directly to the broadcaster in the first instance; and
- consider the broadcaster’s response to be inadequate, or a response has not been received within 60 days.

Complaints about alleged breaches of the legislation or of licence conditions may be made directly to ACMA. ACMA is required to investigate these complaints.

ACMA tracks the number and details of complaints it receives by phone and in writing (including those made using a complaint form available on the ACMA website). There were significantly fewer complaints received in 2005–06 compared with previous years, due largely to a change in the hotline message. ACMA also reports annually on the number and details of investigations completed. Of the 142 investigations completed in 2005–06, 76 per cent resulted in a no breach finding

Table 4.3: ACMA broadcasting complaints and investigations, 2001–02 to 2005–06

	2001–02	2002–03	2003–04	2004–05	2005–06
No. of telephone complaints	Not available	1,574	1,999	2,219	578
No. of written complaints	575	586	699	684	737
No. of investigations completed	163	106	106	153	142
No. of investigations resulting in breach finding	91	50	27	59	34
No. of investigations resulting in no breach finding	72	56	79	94	108

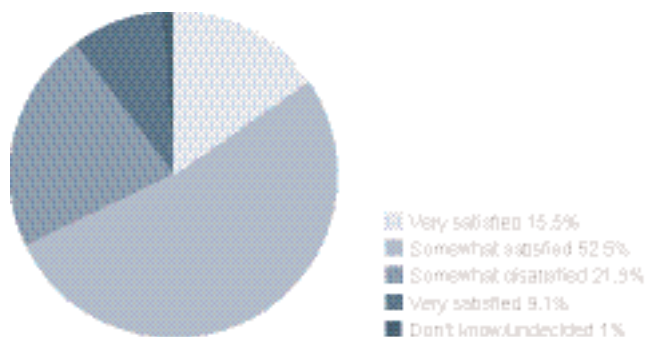
Source: ACMA

Consumer satisfaction with broadcasting services

Satisfaction with free-to-air television was reported in ACMA’s *Digital media in Australian homes*. Surveyed households were asked the following question:

I would now like you to think about free-to-air television services in general, that is stations provided by channels 7, 9 and 10, and the ABC and SBS. How satisfied are you with the free-to-air television services that your household currently receives in terms of the choice of channels and program quality available?

Figure 4.7: Consumer satisfaction with free-to-air television, 2005



Source: ACMA's *Digital media in Australian homes*, research conducted in July 2005, sample=1,148 households with at least one working television in the home

The majority (68.0 per cent) of respondents were satisfied with free-to-air television. However, nearly one in three households (31.0 per cent) indicated some level of dissatisfaction. Most prominent reasons for dissatisfaction with free-to-air television were:

- program quality/variety (60.1 per cent of dissatisfied households);
- too much reality TV (27.8 per cent of dissatisfied households); and
- advertising—amount and volume level (13.2 per cent of dissatisfied households).

Further information about industry compliance and consumer satisfaction

www.acma.gov.au/CommsReport

Appendixes

- 4.1 Regulatory relationships
- 4.2 ACIF code activity
- 4.3 ACCC telecommunications complaints data
- 4.4 TIO complaints data

Data updates

- Australian Competition and Consumer Commission public registers
- ACMA register of telecommunications codes
- ACMA reports on breaches of broadcasting codes – television operations (investigations, regularly updated)
- ACMA reports on investigations into potential breaches by licensees (radio)
- *TIO Talks* (quarterly newsletter including complaint statistics)
- TISSC complaints summary (quarterly)

Organisations

- Advertising Standards Bureau (www.advertisingstandardsbureau.com.au)
- Australian Broadcasting Corporation (www.abc.net.au)
- Australian Direct Marketing Association (www.adma.com.au)
- Australian Mobile Telecommunications Association (www.amta.org.au)
- Australian Narrowcast Radio Association (www.anra.org.au)
- Australian Subscription Television and Radio Association (www.astra.org.au)
- Australian Voice over IP Association (www.avoipa.org.au)
- Commercial Radio Australia (www.commercialradio.com.au)
- Communications Alliance (www.commsalliance.com.au)
- Community Broadcasting Association of Australia (www.cbaa.org.au)
- Free TV Australia (www.freetvaust.com.au)
- Internet Industry Association (www.iiia.net.au)
- NetAlert Limited (www.netalert.net.au)
- Special Broadcasting Service (www.sbs.org.au)
- Telecommunications Industry Ombudsman (www.tio.com.au)
- Telephone Information Services Standards Council (www.tisssc.com.au)

CONSUMER BENEFITS

'Australia is not homogeneous, so different solutions must be facilitated to meet different needs. Our task is to put in place the structure that allows those differences, be they geographic, business-to-business or family circumstances, to be recognised and addressed.'

Lyn Maddock

ACMA Deputy Chair

Access to wireless frequencies

Speech at the ATUG Regional Conference 2006

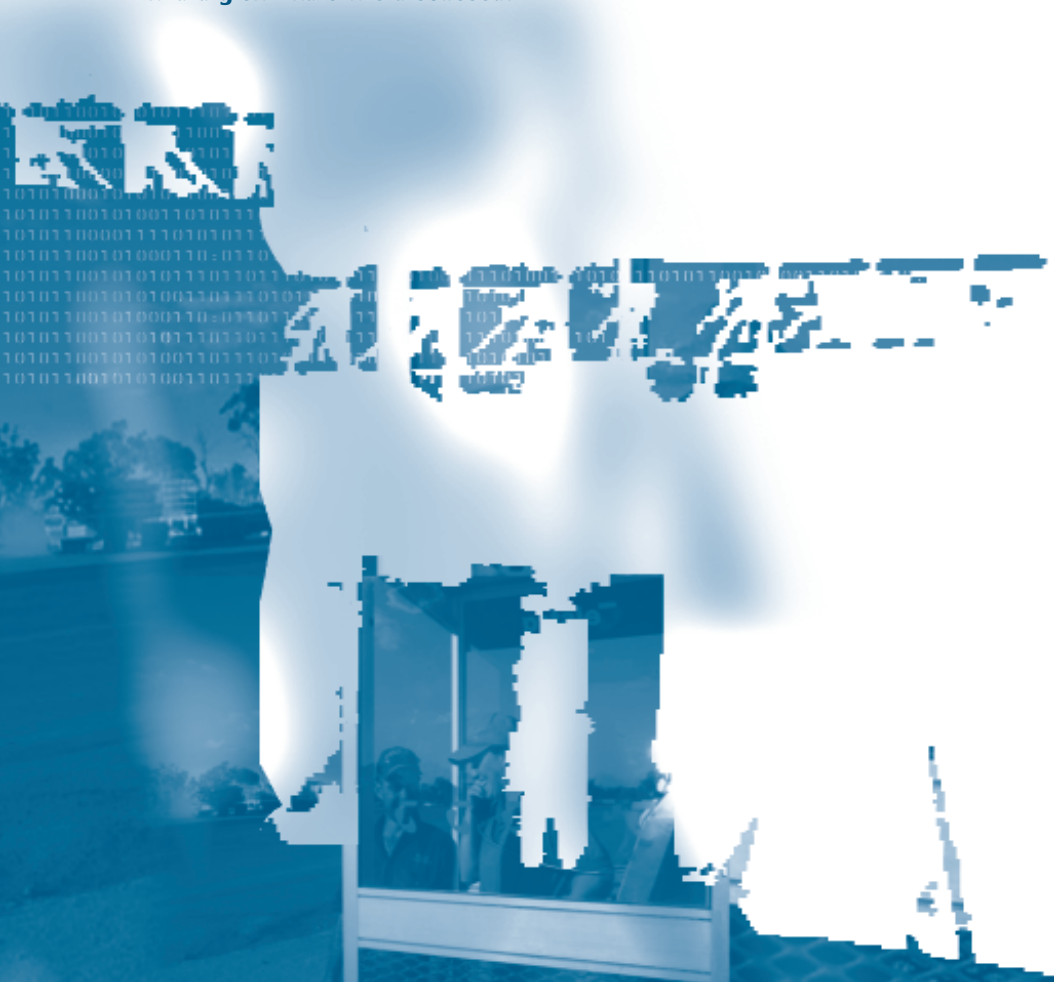
5 Communications services

Overview

This chapter outlines the geographic availability of services for telecommunications, broadcasting and radiocommunications. It also sets out the telecommunications industry's performance in 2005–06 for providing the voice and data services regulated under the universal service obligation, Customer Service Guarantee and digital data service obligation. Performance against the Network Reliability Framework is also outlined.

Services regulated by ACMA for people with a disability during 2005–06 are assessed, including television captioning and the operation, performance and funding of the National Relay Service.

This chapter also outlines enhanced communication services currently in the Australian marketplace or that are emerging into the market. Developments in broadband, wireless broadband access, digital television and digital radio are discussed.



Geographic distribution of services

Telecommunications services

The availability and delivery of communications services across Australia is affected by technical, demographic, commercial and geographic factors. Population size and distance from major commercial and regional centres may reduce the market size and affect the commercial viability of services.

ACMA's *Communications Services Availability in Australia 2005–06* report analyses the availability and geographic distribution of communications services, and the commercial investment and consumer demand which influence infrastructure developments.

Access to communications services in remote Indigenous communities is discussed in Chapter 8.

Table 5.1 outlines service coverage and availability in Australia for telecommunications, radiocommunications and broadcasting.

Table 5.1: Service coverage in Australia, 2005–06

Coverage	
Telecommunications infrastructure and services	
Fixed voice	Reasonably accessible to all people in Australia on an equitable basis, wherever they reside or conduct business
ADSL-enabled exchanges	2,109 – 88% of the population [#]
HFC	2.6 million homes
Data (64 kbit/s service)	Reasonably accessible to all people in Australia on an equitable basis, wherever they reside or conduct business
Payphones	58,230
Telecommunications/Radiocommunications services	
Mobile GSM	96% of the population
Mobile CDMA	98% of the population
Mobile 3G	53% of the population
Satellite voice	100% of the population
Satellite broadband	100% of the population
Wireless broadband	Selected metropolitan and regional areas
Broadcasting services	
FTA television broadcasting (analog terrestrial and satellite)	100% of the population
FTA television broadcasting (digital terrestrial and satellite)	The full suite of FTA digital television services is available to more than 85% of the population, and approximately 90% when taking account of Australian homes that have at least one digital channel available.
Analog radio broadcasting (commercial and/or national)	100% of the population
Community radio broadcasting	361 services distributed throughout Australia*
Subscription broadcasting (cable or satellite)	100% of the population
Open narrowcasting radio (low power BSB, not planned in LAPs)	1,807 services distributed throughout Australia
Open narrowcasting (high power BSB, planned in LAPs)	243 services distributed throughout Australia

FTA– free-to-air

BSB– broadcasting services bands

LAPs– local area plans

** Few geographic communities do not have access to at least one community radio service*

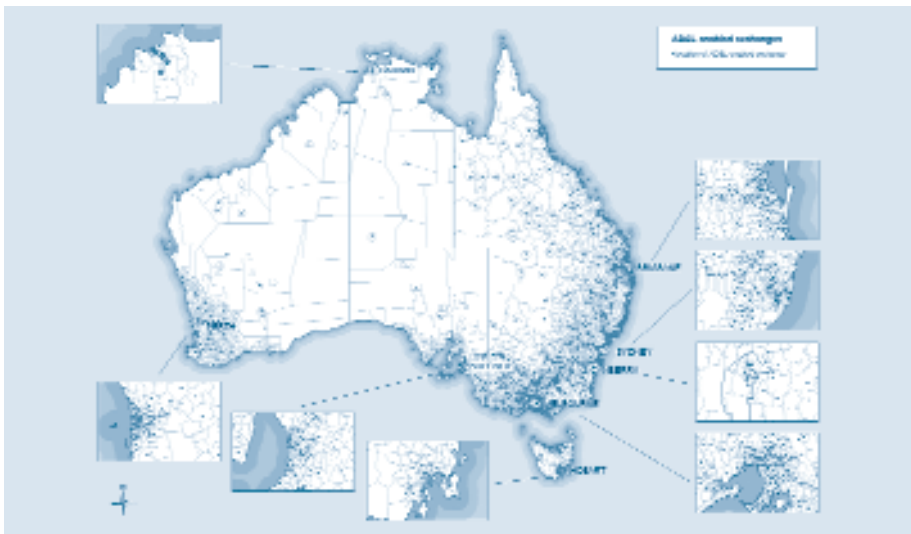
[#] Telstra media release, 26 April 2006

Source: ACMA

Enhanced services are becoming more widely available. The maps below display where three enhanced services—ADSL, wireless broadband and 3G mobile services—are available.

Figure 5.1 displays the general distribution of ADSL exchanges across Australia. ADSL is the most heavily subscribed technology for residential broadband.

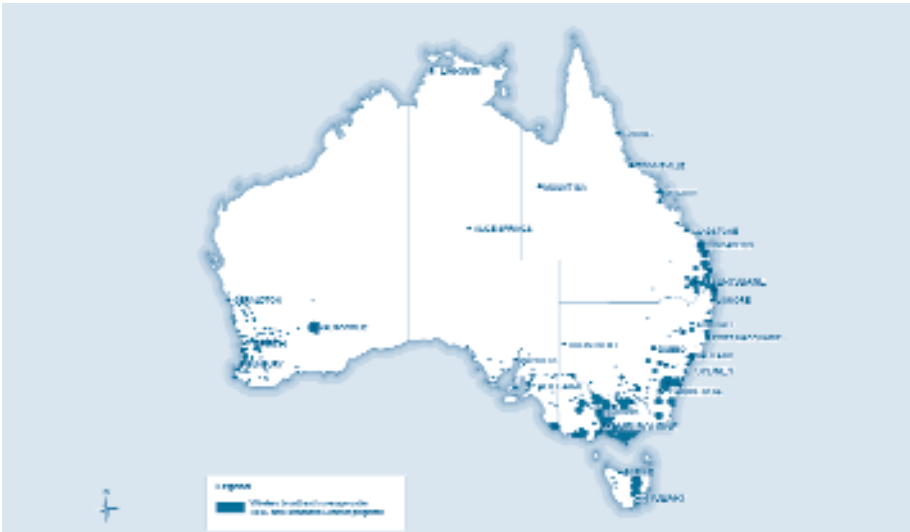
Figure 5.1: Availability of ADSL exchanges, 30 June 2006



Source: ACMA, carriers

Adoption of wireless broadband technology has been subsidised by the Australian Government through the HiBIS and Broadband Connect programs, and its use has grown during 2005–06. Figure 5.2 shows the current distribution of HiBIS/Broadband Connect subsidised wireless broadband services.

Figure 5.2: HiBIS/Broadband Connect subsidised wireless broadband services, 30 June 2006



Source: DCITA HiBIS/Broadband Connect data

Figure 5.3 illustrates coverage by the third generation (3G) mobile phone networks during the review period, which offers higher data rates and a greater range of services.

Figure 5.3: 3G mobile coverage, 30 June 2006



Source: ACMA Communications Report data request

Broadcasting services

ACMA's goal is that commercial and community broadcasting services have 100 per cent geographic and population coverage.

Broadcasting services bands

Licences to provide commercial broadcasting services within parts of the spectrum dedicated to broadcasting services, the broadcasting services bands (BSB), are allocated under a price-based (auction) system. Open narrowcasting services provided in the BSB are provided under a class licence (however, the apparatus licences required to operate the transmitters necessary for a narrowcasting service are allocated under a price-based (auction) system). Community broadcasting licences within the BSB are allocated under a merit-based system.

Non-broadcasting services bands

ACMA may allocate licences to provide broadcasting services outside the BSB on application and, mostly, the area in which these services are provided is at the discretion of the service provider.

In the case of non-BSB commercial broadcasting licences, ACMA designates a particular area of Australia as the licence area (applicants describe the area in which they want to provide their services).

Subscription broadcasting services do not have licence areas. Satellite-based subscription television reaches 100 per cent of the population.

International broadcasting services do not generally broadcast into Australia.

Radiocommunications services

A wide variety of radiocommunications services are in use throughout Australia. The services are used as delivery mechanisms for:

- a variety of telecommunications (standard telephone services, broadband, mobile phones and WiFi hotspots);
- broadcasting services (radio and television); and
- to support the delivery of those services (wireless microphones, wireless cameras, news gathering, back haul for telecommunications and base station interconnect).

Radiocommunications services are used extensively across Australia to support the communications needs of individuals and businesses. A few examples include:

- land mobile communications services used by aviation, defence, emergency services (ambulance, fire brigade and police), the mining and resource industries and other private organisations;
- fixed point-to-point microwave services used to support telecommunications, interconnection of facilities, remote control, telemetry and monitoring for the mining and resource industries;
- radar used for weather forecasting, aviation and defence activities; and
- low power services such as wireless local area networks, remote-controlled devices, cordless telephones and radiofrequency identification tags.

Regulated availability of services

Universal service obligation

The USO is imposed to achieve the goal of providing basic telephony services to people in Australia, irrespective of their place of business or residence. The key elements of the USO are requirements to provide the standard telephone service and payphones. The standard telephone service, defined in section 6 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*, is a carriage service for the purpose of voice telephony, which meets certain other tests. It is the principal carriage service subject to telecommunications regulation in Australia.

Universal service obligation funding

Universal service providers and digital data service providers can submit claims for universal service subsidies and digital data costs incurred during the preceding financial year. These costs are shared among participating carriers with the amount contributed by each participating person based on its share of total eligible revenue (see Appendix 3.1 for eligible revenue data).

Levy credit claims for 2005–06

The total amount of the USO subsidy, determined by the Minister for the cost of supplying the USO in 2005–06 of \$171 million, is funded by participating persons, based on their eligible revenue for 2004–05. Telstra, as the universal service provider and only provider to submit a digital data cost claim for 2005–06, was assessed as being entitled to a total levy credit of \$57,690,964.

Detailed information about the four largest USO liabilities and entitlements for 2005–06 is provided in Table 5.2. Twenty-eight carriers were assessed as having nil eligible revenue for 2004–05 and were not required to contribute to the costs incurred. The levies of the remaining carriers (not listed in the table) range between \$2.09 and \$1,839,648.11.

Table 5.2: Liabilities and entitlements for participating persons, 2005–06 (nearest \$)

	Total cost claims	Levy debit	Levy payable	Levy receivable
AAPT	0	3,831,702	3,831,702	0
Optus	0	35,361,301	35,361,301	0
Telstra	171,424,074	113,733,110	0	57,690,964
Vodafone	0	8,593,621	8,593,621	0

Source: ACMA

Public payphones

The provision of payphone services in Australia, while open to competition, is supported by a USO to ensure that payphones are reasonably accessible to all people in Australia on an equitable basis, wherever they reside or conduct their business. Telstra is the current universal service provider. ACMA monitors Telstra's provision of payphone services and also receives information about the number of payphones supplied or operated by other providers.

While the demand for payphones has decreased as mobile phone penetration rates have increased, the Payphone Policy Review conducted by the ACA in 2003 found that 63 per cent of payphone use is by people who own a mobile phone.

Numbers of payphones and payphone sites

During 2005–06, the total number of payphones (both Telstra-operated and privately operated) in Australia decreased by 5.7 per cent (or 3,505 payphones) to 58,230. This included:

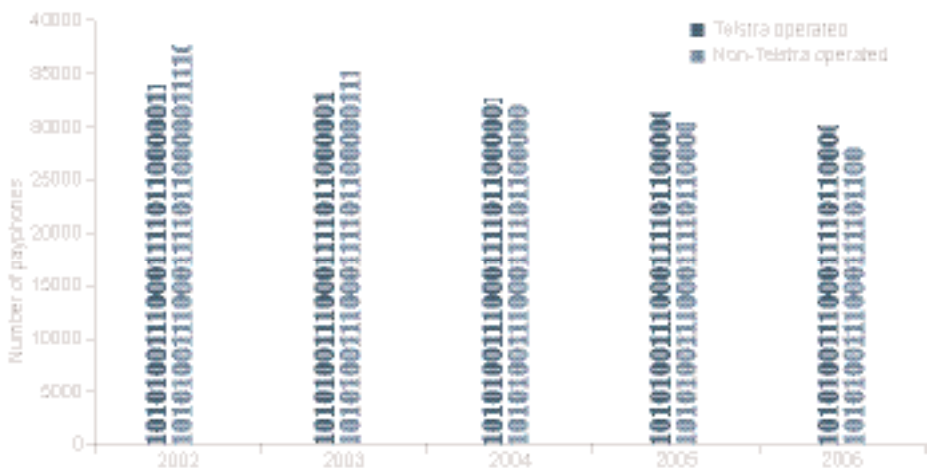
- a decrease of 3.9 per cent to 30,091 in the number of Telstra-operated payphones; and
- a decrease of 2.7 per cent to 22,853 in the number of Telstra-operated payphone sites—some sites have more than one payphone.

At 30 June 2006:

- 52 per cent of the 58,230 payphones are operated by Telstra; and
- 48 per cent are privately operated payphones provided by telecommunications companies, such as TriTel Australia Pty Ltd, or other businesses, such as hotels, clubs and convenience stores.

The overall reduction in number of payphones since 2001–02 is shown in Figure 5.4.

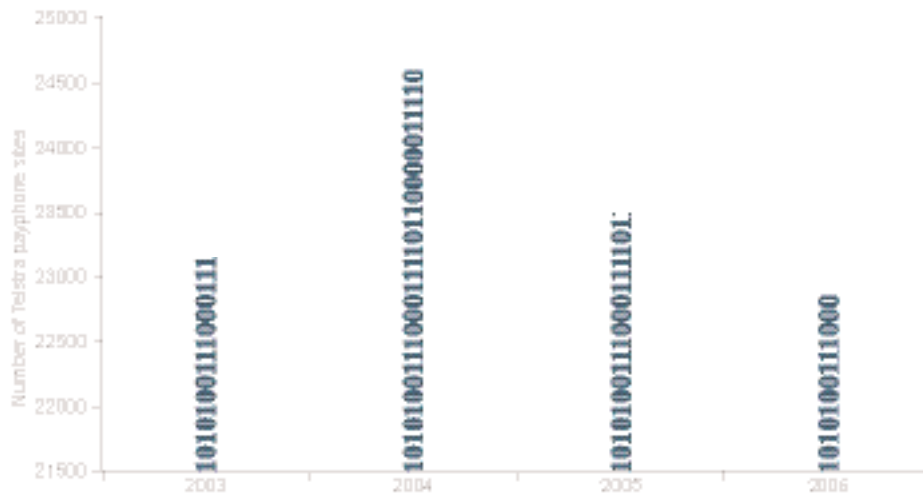
Figure 5.4: Number of payphones in operation, 2001–02 to 2005–06



Source: Telstra and TriTel

The number of sites with one or more Telstra payphones in 2005–06 declined by 2.7 per cent (or by 642 sites) from the previous year, as shown in Figure 5.5.

Figure 5.5: Number of Telstra payphone sites, 2002–03 to 2005–06



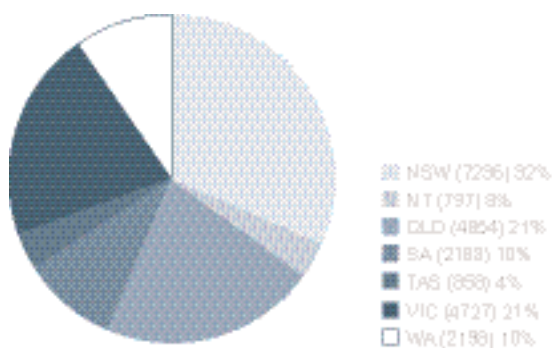
Source: Telstra

The number of Telstra payphone sites in each state and territory is shown in Figure 5.6. Key features of this distribution of payphones are:

- 30 per cent (6,854) of the sites are in rural areas and four per cent (853) are in remote areas;
- most of the rural sites are in New South Wales (30 per cent or 2,077), Queensland (21 per cent or 1,432) and Victoria (20 per cent or 1,399);
- most of the remote sites are in the Northern Territory (39 per cent or 330), Western Australia (30 per cent or 260) and Queensland (21 per cent or 182); and
- of the 853 Telstra payphone sites in remote areas, 49 per cent (415) are in remote Indigenous communities.

Telstra's website includes a payphone locator that consumers can use to identify locations of individual payphones.

Figure 5.6: Number of Telstra payphone sites in each state and territory, 30 June 2006



Source: Telstra

In addition to Telstra-operated payphones, there are:

- 6,026 privately operated payphones in rural areas; and
- 557 privately operated payphones in remote areas, with 51 of these in remote Indigenous communities.

Payphone serviceability

Telstra determines a payphone to be unserviceable if, as a result of a fault, it is not possible to make all call types using all payment mechanisms offered at that payphone.

On average across Australia, Telstra payphones were unserviceable for six per cent of the time during 2005–06, a slight improvement on the previous year (seven per cent).

Fault repair performance targets

Timely repair of payphone faults is an important component of the USO provision of payphone services. Telstra is required to use ‘reasonable endeavours’ to repair unworkable Telstra payphones according to the service location within the following timeframes from notification of the fault:

- urban areas—one working day;
- rural areas—two working days; and
- remote areas—three working days.

Telstra's fault repair performance

During 2005–06, Telstra repaired 89 per cent (286,056) of the 322,089 payphone faults nationally within the required timeframes. Ninety-eight per cent (316,839) of all faults were repaired within five working days of required timeframes. Fault repairs in urban and regional areas were as follows:

- urban areas—92 per cent of repairs were completed on time;
- rural areas—83 per cent of repairs were completed on time; and
- remote areas—72 per cent of repairs were completed on time.

For repairs not completed on time:

- 99 per cent of urban area repairs were completed within five working days of the required timeframe;
- 97 per cent of rural area repairs were completed within five working days of the required timeframe; and
- 91 per cent of remote area repairs were completed within five working days of the required timeframe.

For more information about payphone fault repairs, refer to Appendix 5.1.

ACMA notes that the fault repair performance benchmarks recommended by the Payphone Policy Review were to apply during the last six months of the 2005–06 year. ACMA has discussed with Telstra the need for performance benchmarks to be met during the first full year for which they apply (calendar year 2006) and in subsequent years. Telstra changed the methodology used for its fault repair data collection in 2005–06, which means that comparisons cannot be readily made with data from previous years on fault repairs.

Installation of payphones

Under the USO, communities or members of the public can apply for installation of a Telstra-operated payphone in a public place. During 2005–06, there were 322 applications for installation of a new Telstra-operated payphone, of which 31 per cent were accepted.

For more information about Telstra's performance in installing new payphones at sites where infrastructure is not readily available during 2004–05 and 2005–06, refer to Appendix 5.1.

Payphone access for people with disabilities

The Payphone Policy Review found that existing payphone services in Australia were 'reasonably adequate', with two exceptions—payphone services for remote Indigenous communities (refer to Chapter 8) and payphone services for people with disabilities.

In February 2006, ACMA participated in a meeting initiated by the Australian Communications Industry Forum and the Human Rights and Equal Opportunity Commission to establish a working group to develop an industry guideline on payphone accessibility for people with disabilities. A draft guideline was developed and was released for public consultation in July 2006.

The Payphone Policy Review also addressed the provision of teletypewriter (TTY) payphone facilities. At 30 June 2006, there were 244 TTY payphones provided by Telstra, an increase of nine TTY payphones from the previous year—six in urban areas and three in rural areas.

Telstra's payphone rationalisation program

In February 2006, Telstra issued a media release about its plans to remove up to 5,000 payphones that it considered to be loss-making and not required under the USO.

On 8 June 2006, the Minister announced a response package to address community concerns about Telstra's payphone rationalisation program. The package contains non-regulatory measures to improve consultation and transparency of the payphone removal process. ACMA has been given an enhanced role in handling complaints about payphone removals where they have been through Telstra's complaints process and are still unresolved, and the payphone in question is the last payphone at its particular site.

During 2005–06, Telstra removed 346 payphones from service after public consultation, including 222 in urban areas, 114 in rural areas and 10 in remote areas. Telstra also cancelled the proposed removal of 73 payphones as a result of its consultation process—42 in urban areas, 30 in rural areas and one in a remote area.

Digital data service obligation

The digital data service obligation (DDSO) is the obligation placed on a digital data service provider to ensure that digital data services are accessible to all people in Australia on an equitable basis, wherever they reside or conduct business.

The DDSO consists of two obligations:

- the general DDSO (GDDSO) for people in general digital data service areas (approximately 96 per cent of the population); and
- the special DDSO (SDDSO) for the approximately four per cent of Australians who usually live or work at a distance of more than 4.5 kilometres from their local telephone exchange.

Telstra is currently the sole provider of both the GDDSO and the SDDSO. Both services provide a digital data capability broadly comparable to a 64 kilobits per second (kbit/s) service supplied as part of a designated basic rate ISDN service.

General DDSO

The GDDSO service provided is Telstra's ISDN service. Telstra met its obligation by providing basic rate ISDN services under the GDDSO to more than 97 per cent of the population during 2005–06.

Special DDSO

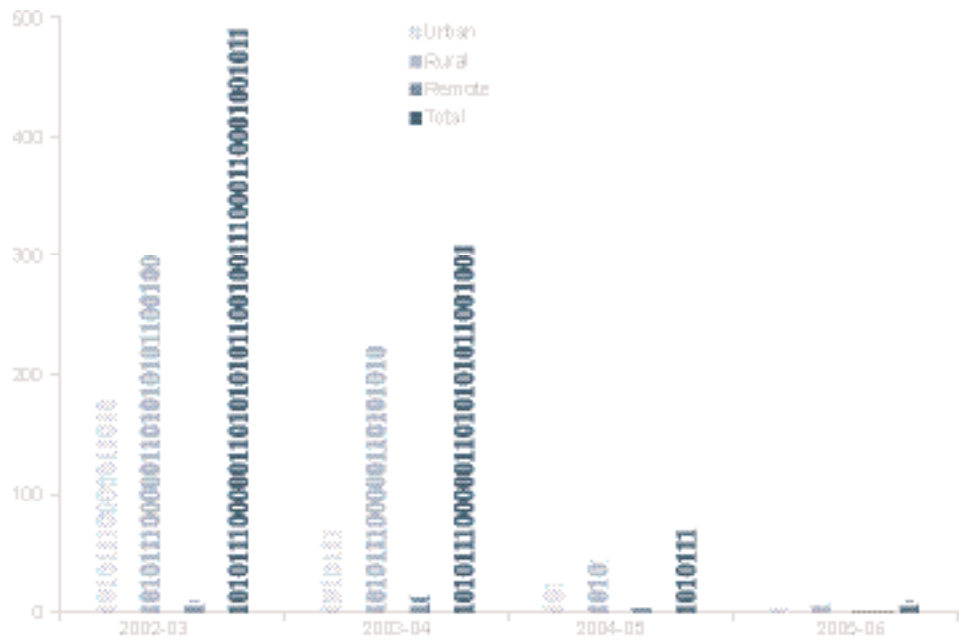
The SDDSO provides that customers unable to obtain the GDDSO have access to a service providing the equivalent of a 64 kbit/s download connection speed.

To fulfil the SDDSO, a one-way satellite internet service is provided to customers to enable them to download data using the satellite link and to upload data through a dial-up modem on the customer's telephone service. A rebate, funded by the telecommunications industry under the universal service regime, is paid to customers for the purchase and installation of satellite equipment. The rebate is 50 per cent of the cost of purchase and installation of equipment or \$765, whichever is lower.

Hotkey Internet Services Pty Ltd ceased to be an SDDSO provider at the company's request on 15 May 2006, but has made arrangements to provide continuity of service to its existing SDDSO customers.

Figure 5.7 shows Telstra's performance in providing SDDS connections. Only nine connections were requested in 2005–06, six of which were provided within target timeframes. Further information about the SDDS is at Appendix 5.2.

Fig 5.7: SDDS supplied by Telstra, 2002–03 to 2005–06



Source: Telstra

Customer Service Guarantee standards

The CSG Standard sets out minimum service standards for CSPs providing basic telephony services to residential and small business customers with five or fewer services. The performance standards relate to the connection and repair, and associated appointment-keeping, of standard telephone services and a range of enhanced call-handling features. If a CSP fails to meet the performance standards, compensation may be payable to the consumer.

Services subject to the CSG Standard represent a significant proportion of all fixed-line standard telephone services.

ACMA received information from the CSPs that supply the majority of CSG services. The reported number of telephones covered by the CSG Standard declined by 2.8 per cent from 2004–05 to 8.71 million in 2005–06. This decrease is consistent with the estimated reduction in fixed-line services over this period.

Table 5.3 sets out the CSG timeframes within which service providers must connect telephone services, repair faults and arrive for any associated appointments. The obligations imposed by the CSG under these timeframes vary with the location of the customer (urban, minor rural, major rural and remote) and, in the case of connections, the need to access or install associated infrastructure.

If a CSPs fails to meet a CSG timeframe, it is required to make a compensation payment to the affected customer. The connection and fault repair timeframes for telephone services, together with the associated compensation payments for any failure to meet those timeframes were as follows during 2005–06.

Table 5.3: Customer Service Guarantee timeframes

CSG timeframe (in working days)				Compensation payable per working day that connection is late			
In place connection	New service connection		Fault repair	Days 1-5		Day 6 onwards	
	Infra-structure-close	Infra-structure-far		Residential customers [#]	Business customers		
Urban	2	5	20	1	\$12	\$20	\$40
Major rural	2	10	20	2			
Minor rural	2	15	20	2			
Remote	2	15	20	3			

[#] 'Residential customers' includes charities

Source: ACMA

In 2005–06, Telstra completed 95.1 per cent of its approximately 589,000 new service connections within CSG timeframes. Optus had approximately 65,000 new service connections on its own network (which excludes its resale activity on Telstra and other networks) and completed 99.2 per cent within CSG timeframes. AAPT had approximately 76,000 new service connections, with 97.8 per cent completed in time and Primus had 1,587 new service connections, with 88.3 per cent completed in time.

Telstra met fault repair performance standards in more than 90 per cent of instances in almost all states and for all types of locations (urban, rural and remote). Optus' performance ranged from 83.3 per cent in remote Victoria to 100 per cent in remote areas of Queensland, South Australia and Tasmania. AAPT's performance was at or over 90 per cent in most states and locations, with the exception of remote Tasmania, where the only fault repair was not completed within the timeframe.

As a result of missing CSG Standard timeframes during 2005–06, Telstra made more than 145,000 compensation payments, totalling \$4.39 million. Optus made 8,826 payments worth a total \$0.32 million. AAPT made 5,436 payments worth \$0.21 million, while Primus made 2,275 payments worth \$0.24 million.

Telstra provided 3.10 million CSG connections, fault repairs and appointments. Of these, 3.8 per cent did not meet the timeframes. Optus was late with 2.5 per cent of its CSG activity, and AAPT was late for 2.4 per cent of its CSG activities.

The CSG Standard is the legislative instrument enabling the CSG. During the reporting period, the Minister announced changes to the CSG to increase the amount of compensation payable to consumers in line with inflation and to limit the grounds under which CSPs could claim exemptions from performance standards for extreme weather conditions. A new CSG Standard is expected to be made in 2006–07.

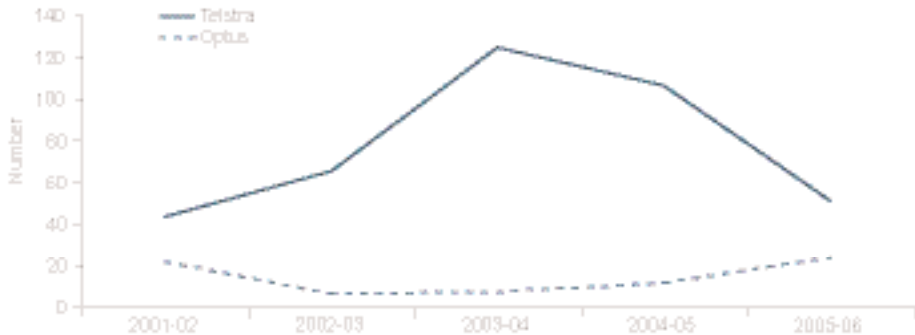
More detailed CSG performance data is provided in Appendix 5.3.

Mass service disruptions

Under the CSG Standard, a CSP can claim an exemption from the CSG and extend the timeframes by giving notice of a mass service disruption (MSD) if its ability to connect or repair services within those timeframes is affected by circumstances beyond its control. For example, when Cyclone Larry hit far north Queensland on 20 March 2006, Telstra had about 3,000 services affected and Optus about 300. The exemption period declared was for 11 working days.

During 2005–06, Telstra declared 51 MSDs, all of which were due to extreme weather conditions or natural disasters. The average number of Telstra services affected was 1,122, for an average exemption period duration of four working days. Optus declared 23 MSDs during 2005–06, with an average of 1,137 Optus services affected, for an average duration of seven working days. Figure 5.8 displays the trend for MSDs for 2001–02 to 2005–06.

Figure 5.8: Number of mass service disruptions, 2001–02 to 2005–06



Source: ACMA

Network Reliability Framework

The Network Reliability Framework (NRF) is a three-tiered regulatory arrangement under which ACMA monitors the reliability of Telstra's fixed telephone services as part of Telstra's licence conditions. The NRF applies to the performance of Telstra's CSG-eligible customers—household and small business fixed-line customers with five lines or less.

The NRF monitors performance at three different levels of disaggregation. During the reporting period these were:

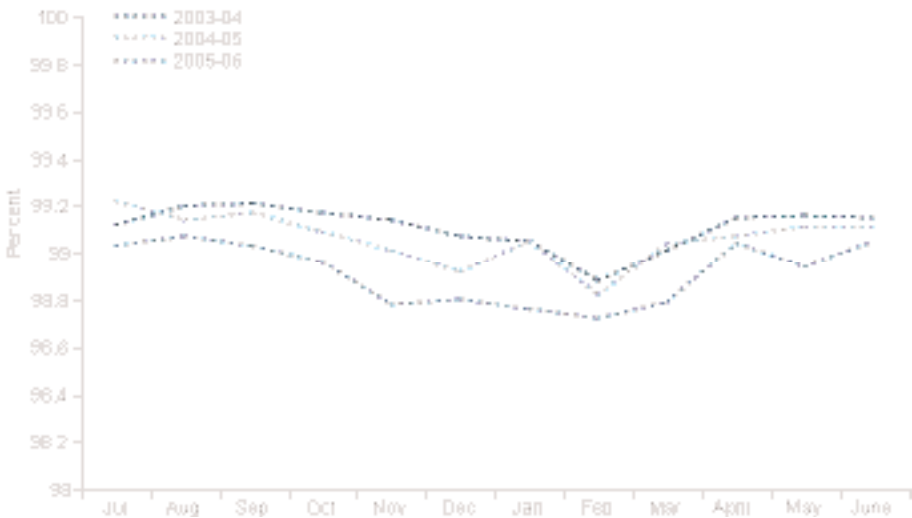
- Level 1—nationally and Telstra's field service areas (FSAs);
- Level 2—exchange service areas (ESAs); and
- Level 3—individual services.

Level 1 is designed to inform the public broadly about network reliability performance. Under Levels 2 and 3, Telstra can be required to remediate poorly performing parts of its network.

Level 1 – National and field service area performance

Under the NRF Level 1 arrangement, Telstra is required to report on performance nationally and for each FSA in Australia. Level 1(a) of the NRF is a report on the percentage of services that did not have a fault in the month.

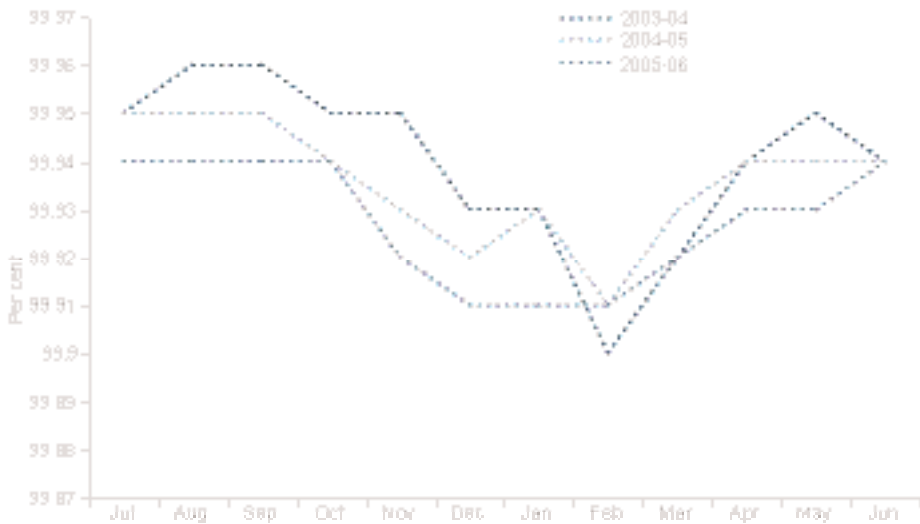
Figure 5.9: Level 1(a) – percentage of Telstra CSG services that did not experience a fault, 2003–04 to 2005–06



Source: ACMA, Telstra

Level 1(b) is concerned with the percentage of time in a month that services on average are available. A service is considered available if it is not awaiting repair. The performance is calculated based on the total sum of time associated with fault repairs and then averaged across all services, whether or not they had a fault in the month.

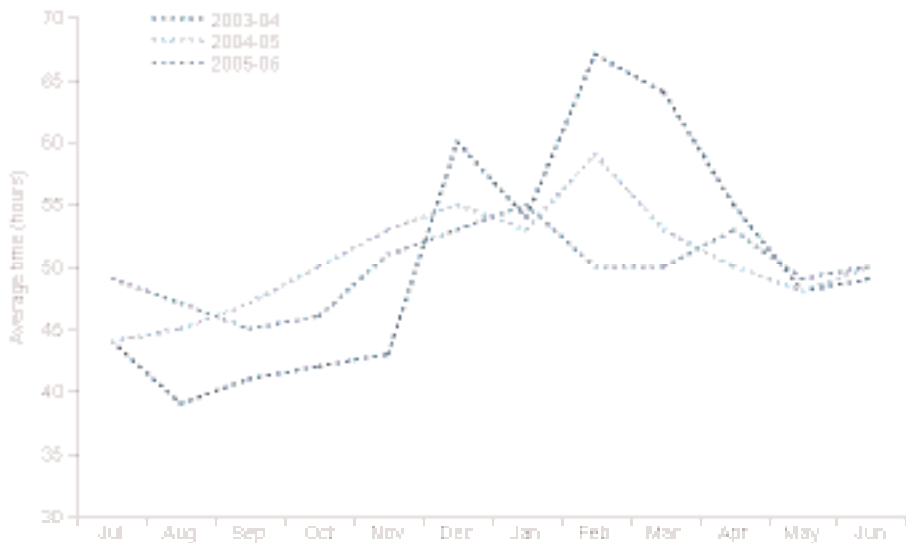
Figure 5.10: Level 1(b) – average percentage of time Telstra CSG services were available, 2003–04 to 2005–06



Source: ACMA, Telstra

Level 1(c) is an additional measure that is concerned with the average number of hours that fault-affected services were unavailable in the month. Unlike Level 1(b), this measure only considers services that had one or more faults in the month.

Figure 5.11: Level 1(c) – average time (in hours) that fault-affected Telstra CSG services were unavailable, 2003–04 to 2005–06



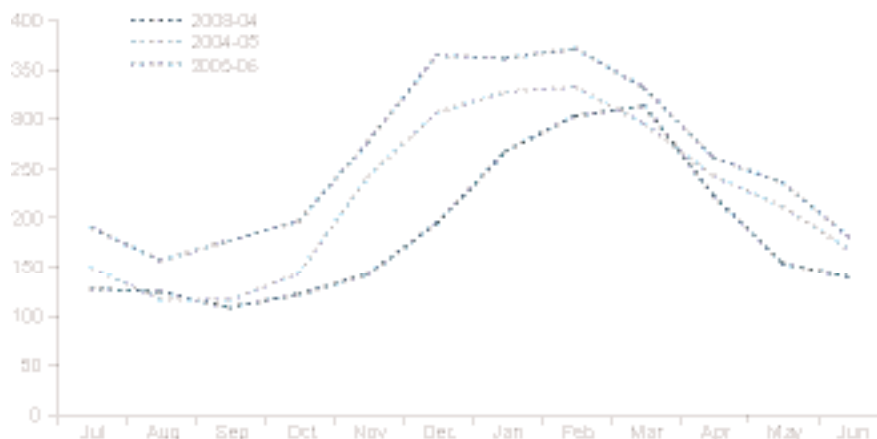
Source: ACMA, Telstra

The FSAs with the best performance against the various Level 1 measures have generally been the central business districts of capital cities, followed by metropolitan areas, and then the less densely populated rural and remote areas. FSAs prone to tropical rainfall or frequent lightning strikes in particular have a lower percentage of fault-free services reported under Level 1(a).

Level 2 – Exchange service area performance

Telstra was required to report to ACMA each month on ESAs that breach certain fault thresholds. An ESA refers to an area served by a Telstra telephone exchange. There are 5,058 ESAs in Telstra's network, with fault reporting thresholds varying according to the size of the ESA. See Table 5.4.4 in Appendix 5.4 for more detail on fault thresholds.

Figure 5.12: Level 2 – number of ESAs that have breached the Level 2 fault thresholds, 2003–04 to 2005–06



Source: ACMA, Telstra

Reporting under Level 2 has not been fully effective in identifying ESAs with systemic poor performance. The services in ESAs that breached the Level 2 thresholds (based on the number of services that have faults in two consecutive months) were often found to have unrelated and one-off faults, with no clear implication for reliability problems within the wider area. Furthermore, it is easier for larger ESAs to breach the threshold levels (irrespective of actual reliability). There were 1,177 different ESAs, or 23 per cent of all ESAs, that breached the Level 2 thresholds in 2005–06.

Because the measure was not fully effective in identifying areas with systemic reliability problems, ACMA only asked for further information from Telstra (about the nature of the faults on the services causing the breach) on 70 of the 1,177 ESAs that breached the thresholds in 2005–06. These ESAs were chosen because they had breached on a number of occasions and had a high percentage of services experiencing faults in two consecutive months.

Changes to the Level 2 arrangements were recommended by the former ACA as part of its review of the NRF in 2004–05 in response to concerns about the effectiveness of Level 2 outcomes. These recommendations, discussed below, were accepted by the Minister and will be implemented in the next reporting period.

Level 3 – Individual service performance

Telstra is required to take action to prevent an individual service from experiencing:

- four or more faults in a rolling 60-day period; or
- five or more faults in a rolling 365-day period.

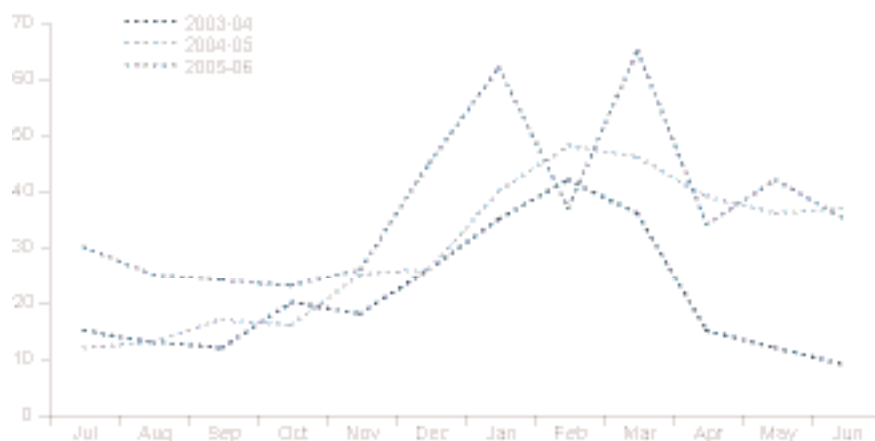
Telstra is required to report to ACMA any services that breach these thresholds. ACMA examines Telstra's actions for improving performance and, where necessary, requests Telstra to carry out further remediation of the services.

Although only a relatively small number of breaches were identified, Telstra has reported an increasing number of breaches of the 60-day threshold (438 breaches in 2005–06, compared with 356 in 2004–05 and 252 in 2003–04). Breaches of the 365-day threshold are relatively more common, and have also increased from the previous financial year (there were 2,230 breaches in 2005–06, compared with 1,840 in 2004–05)¹.

A single service may be reported more than once where an initial breach is followed by one or more subsequent faults. In total, 2,024 services were reported for breaching the 60-day threshold or the 365-day threshold in 2005–06 compared with 1,659 services in 2004–05. Figures 5.13 and 5.14 show the trends for the two performance measures since 2003–04.

The increase in the number of services breaching the Level 3 thresholds has resulted in a corresponding increase in remediation of individual services reported to ACMA, as required by the NRF licence conditions where services fail to meet a minimum standard of reliability. Telstra attributes the increase in the number of Level 3 contraventions during 2005–06 to extreme weather events, such as Cyclone Larry in northern Queensland. While adverse weather is one of a number of factors that can affect the reliability of telephone services, Telstra is expected to take reasonable action to prevent the network from failing in normal conditions. ACMA will continue to monitor Telstra's performance under Level 3 of the NRF.

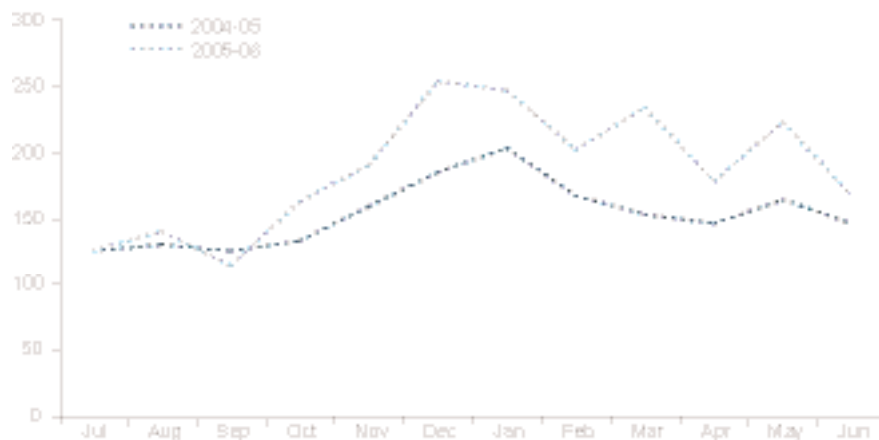
Figure 5.13: Level 3(a) – number of Telstra CSG services with four or more faults in a rolling 60-day period, 2003–04 to 2005–06



Source: ACMA, Telstra

¹ It is not appropriate to compare annual performance for 2004–05 with results for 2003–04, when figures were not available for the full 365-day period.

Figure 5.14: Level 3(b) – number of Telstra CSG services with five or more faults in a rolling 365-day period, 2003–04 to 2005–06



Source: ACMA, Telstra

The increase in the number of services breaching the Level 3 thresholds has resulted in a corresponding increase in remediation of individual services reported to ACMA.

Interim and alternative telephone services

Under Telstra's USO Standard Marketing Plan, Telstra offers customers access to an interim or alternative telephone service when there is an extended delay in connecting or repairing a customer's standard telephone service:

- an interim service is a voice service that generally uses mobile or satellite technology and is charged at standard telephone service rates; and
- an alternative service can be supplied in various ways, such as through call diversion to a mobile or another fixed-line telephone service. Telstra is not obliged to charge standard telephone service rates for these services.

Telstra is not required to provide an interim or alternative service where there are circumstances beyond its control, such as in the case of damage to a CSP's facilities, a natural disaster or extreme weather conditions. Other CSPs are not required to offer interim and alternative services for extended delays in connecting services or repairing faults, although they may choose to do so to limit the compensation payable to customers under the CSG Standard.

During 2005–06, Telstra supplied:

- 3,584 interim services to customers experiencing a significant delay in connection; and
- 96.5 per cent received their interim service within the 30 working days target.

Telstra did not supply any data for alternative services, stating ‘we cannot automatically extract alternative services data. Based on a previous data sample, the number of alternative services supplied for activation purposes is small – in the order of only a few hundred per year.’

There were few complaints in 2005–06 to the TIO about interim and alternative services (see Table 5.4).

Table 5.4: Complaints to the TIO about interim and alternative services, 2002–03 to 2005–06

	2002–03	2003–04	2004–05	2005–06
Inadequate/incorrect advice regarding interim/alternative service	2	1	7	10
Delay in fault repair for interim/alternative service	17	3	0	16
Delay in provision of service for interim/alternative service	3	7	9	7

Source: ACMA, TIO

Access to services for people with disabilities

Equitable access to basic communication services for all Australians includes a requirement for provision of tailored communications services for people with disabilities.

Government regulation requires free-to-air television broadcasters to transmit captions to assist people with hearing impairment to access television programming. It also requires a range of telephone services and equipment to be provided to accommodate the needs of people with speech and hearing impairment.

Television captioning

Commercial and national television broadcasters are required to provide closed captions for:

- all programming broadcast between 6:00 pm and 10:30 pm; and
- all news and current affairs with some limited exemptions.

A Human Rights and Equal Opportunities Commission (HREOC) decision requires commercial and national television broadcasters to close caption all programs (other than sports programs) that commence in prime time, and to increase the level of captioned programming (broadcast between 6:00 am and midnight) to 55 per cent by the end of 2005 and then to 70 per cent by the end of 2007.

Pay TV providers were required to provide captioning on five per cent of programs across a minimum of 20 digital channels by December 2004. This quota increases by five per cent every year, growing to 25 per cent in 2008. Twenty further channels must be caption-enabled by December 2006.

Amount of captioned television programming broadcast in 2005

The ABC, Network Ten, Nine Network and Seven Network reported to HREOC that between 57 and 62 per cent of programming was captioned in 2005. SBS, which can include both its subtitled foreign language films and captioned English language programming, reported 76 per cent of captioned programming.

Pay TV broadcasters reported to HREOC that:

- 20 digital channels on Foxtel and Austar were enabled for captions in October 2004 and Optus also commenced digital services in October 2005;
- the average captioning level by these channels was more than 25 per cent by October 2005; and
- these figures do not include captioning on the additional seven ‘+2’ captioned channels, time shifting programs two hours later, or the World Movies channel, which has about 95 per cent of its programming subtitled.

Receiving equipment

While there is no requirement for the inclusion of teletext capabilities into analog television equipment, many models of available television sets are teletext-enabled.

All digital equipment (including digital set-top boxes and integrated digital televisions) is required to be able to receive and display captions.

National Relay Service

The National Relay Service (NRS) enables people with a hearing or speech impairment to access a standard telephone service on terms and in circumstances that are comparable to other Australians.

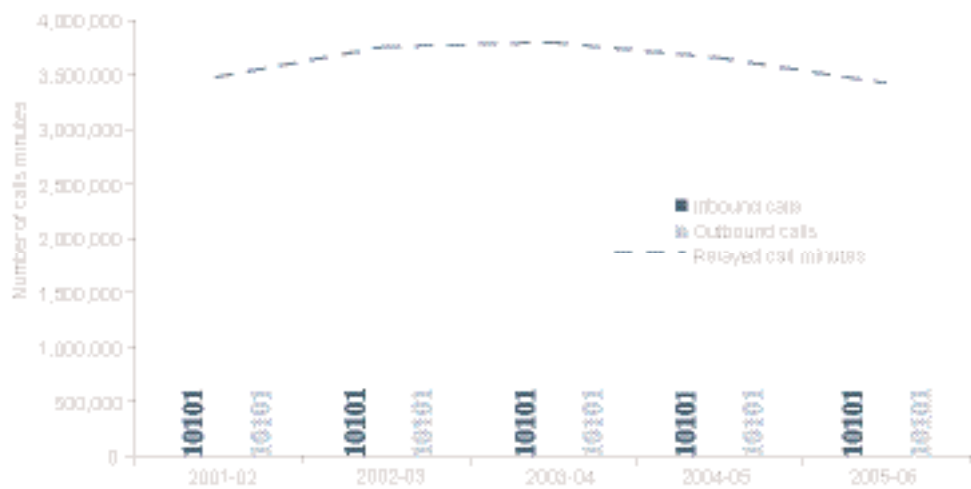
The NRS provides several communications services that enable:

- a person with a speech impairment to speak to another person, with the operator repeating any part of the message that has not been understood;
- a person to communicate in text messages, with the operator relaying the message as voice to and from another party;
- people with a speech impairment to listen to phone conversations and type their responses for relaying in speech by the operator;
- people with a hearing impairment to communicate by voice, with the operator typing the spoken response; and
- access to a text emergency service via the number 106.

Use of the NRS

Use of the NRS as measured by relayed call minutes has been relatively consistent over the past five years. Although the total number of calls to the NRS increased marginally during 2005–06, the volume of call minutes fell. See Figure 5.15.

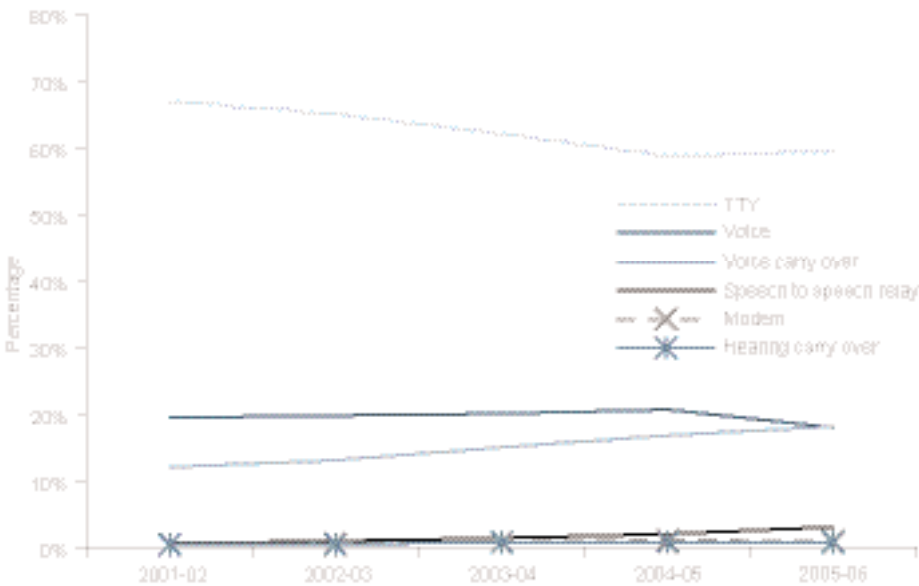
Figure 5.15: National Relay Service – relayed call minutes and call volume, 2001–02 to 2005–06



Source: Australian Communication Exchange (ACE)

It is possible to make follow-on outbound calls from a single inbound call. Consequently, outbound call numbers are slightly higher than inbound calls.

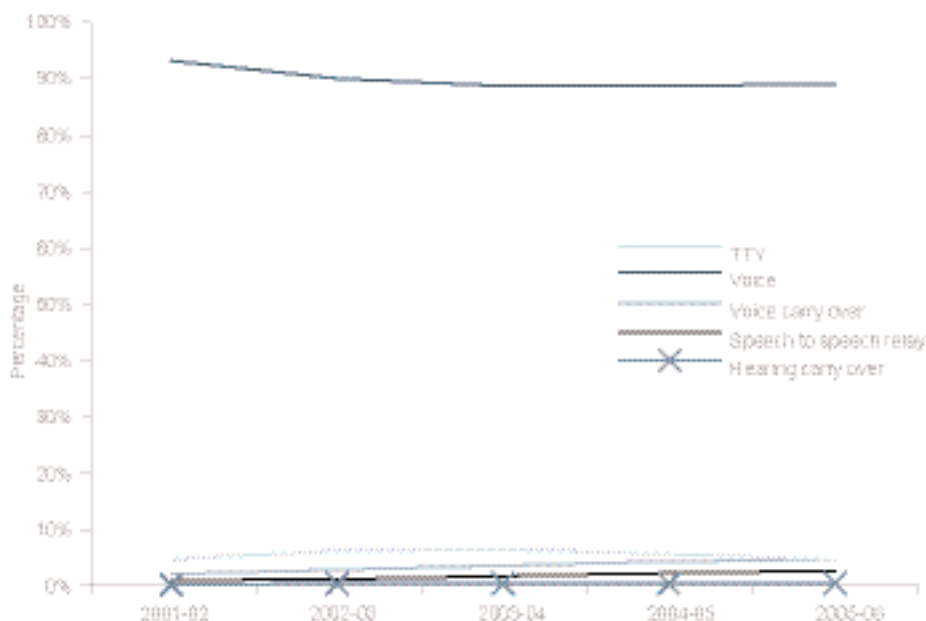
Figure 5.16: National Relay Service – inbound call types, 2001–02 to 2005–06



Source: ACE

There is a clear decline in the number of people using TTYs to contact the relay service and a comparable increase in the number using the voice carry over service, which is most often used by people who have acquired a hearing impairment.

Figure 5.17: National Relay Service – outbound call types, 2001–02 to 2005–06



Source: ACE

Voice calls, where the relay officer talks to the desired call recipient, remain the great majority of calls made. See Appendix 5.5 for more information about the NRS.

National Relay Service provider

The NRS is provided under contract to the Commonwealth by the Australian Communication Exchange Limited (ACE). During 2005–06, ACE was contracted by DCITA to provide both the NRS and the outreach service, which provides information, support and training in relation to the NRS to users and potential users of the service.

ACMA monitors the performance of the NRS provider against the contract and the NRS Plan, which outlines the services and performance standards to be delivered².

The four service performance standards are:

- call blockage—no more than five per cent of calls receive a busy signal;
- complaints as a ratio of successful calls—less than two per cent of total successful calls;
- text emergency call blockage—no more than 0.5 per cent of calls receive a busy signal; and
- text emergency call answer time—99 per cent of calls answered within 10 seconds.

² Subsection 97(2) of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*

The NRS provider consistently met all four required performance standards during 2005–06.

ACMA also conducted weekly monitoring of call blockage performance for the 106 text emergency service. The required standard of performance was maintained.

National Relay Service funding

The NRS is funded by eligible telecommunications carriers through a quarterly levy.

In 2005–06, the cost of providing the NRS was \$12.8 million (inclusive of GST and subject to final reconciliation of the June 2006 quarter), a decrease of more than 20 per cent on 2004–05 costs. This cost decrease represents both an adjustment in the call minute rate and a reduction in use of the NRS during 2005–06.

Telstra and Optus remain the major contributors to the cost of providing the NRS, collectively funding just less than 72 per cent in 2005–06.

Disability Equipment Program

The *Disability Discrimination Act 1992* requires service providers that supply equipment as a part of a service to ensure that the equipment allows equivalent access for consumers with a disability.

In addition, obligations in the telecommunications legislation require the USO provider (Telstra) to:

- supply equipment to enable access to the standard telephone service for people with a disability; or
- provide access to a service equivalent to the standard telephone service for people with a disability for whom the use of a voice service is impractical, including the provision of specialised customer equipment.

Telstra specifies the services it will supply to people with a disability in its USO Standard Marketing Plan. Specialised equipment is supplied by Telstra through its Disability Equipment Program (see Appendix 5.5).

Optus also maintains a disability equipment program.

Enhanced communications services

While access to basic service such as the standard telephone service is subject to substantial government regulation, the communications industry continues to expand its existing services, deploy new services and plan for new advanced services.

This section discusses:

- the expansion of mobile networks to 3G;
- the continued advanced in broadband facilities and services; and
- the digitalisation of broadcasting services.

3G networks

During 2005–06, all four of the licensed mobile carriers expanded their 3G networks. Investment in 3G infrastructure resulted in the mobile network operators expanding their revenue base beyond voice calls and into higher value data services.

In 2004, the four Australian mobile network operators entered into two separate agreements to share infrastructure for their 3G networks to achieve economies of scale in their infrastructure deployments:

- In August 2004, Telstra and Hutchison entered into an infrastructure sharing agreement to jointly own and operate Hutchison’s existing 3G network and to fund future network development. Telstra launched its own 3G services in September 2005.
- Vodafone launched its 3G service on 31 October 2005, and Optus launched its 3G service 14 days later, as a joint national 3G network.

ACMA estimates that at the end of June 2006, 3G services were available to approximately 53 per cent of the population. The geographic coverage of the two 3G networks was shown in Figure 5.3, which shows the combined 3G coverage of Optus, Telstra, Vodafone and Hutchison at 30 June 2006. 3G services have been taken up by an estimated eight per cent of Australian mobile users.

The 3G technical standards use spectrum more efficiently than earlier mobile telecommunications standards, which allows lower network operational costs and so cheaper services for consumers.

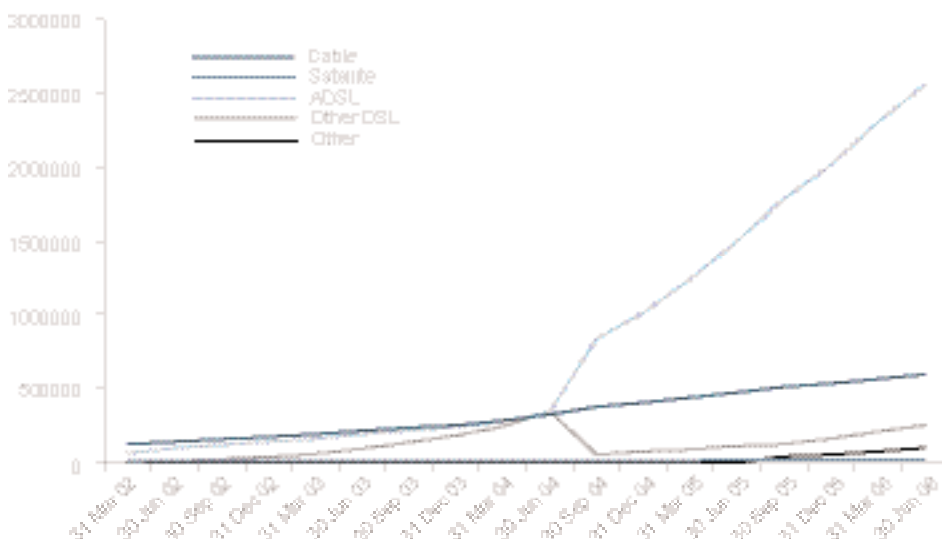
Developments in mobile technology have enabled fixed services—such as broadband access—to be provided on mobile networks. This trend is generally referred to as fixed–mobile convergence.

Broadband services

Broadband in Australia grew rapidly in the past year. The ABS reports that subscriber numbers reached 3.1 million in June 2006.

According to the ACCC’s June 2006 *Snapshot of Broadband Deployment*, ADSL now has 72.5 per cent of broadband connections, HFC cable 16.9 per cent, other forms of DSL (DSL excluding ADSL, HDSL, or RADSL) 7.1 per cent, with terrestrial wireless access 2.8 per cent and satellite 0.7 per cent.

Figure 5.18: Uptake of broadband by technology, March 2002 to June 2006



Source: ACCC

Increasing broadband access

Broadband access is important to Australia. In 2003, the Broadband Advisory Group reported to the Australian Government that:

Broadband communications technologies can deliver substantial economic and social benefits to Australia. They reduce the constraint of distance and greatly increase the quality of communications in many sectors ... In short, broadband technologies can transform the way people live, work and do business.

To realise these objectives, the Australian Government has continued its support of deployment of broadband infrastructure in rural and regional Australia through several funding programs, such as HiBIS, the Coordinated Communications Infrastructure Fund and the programs within the Connect Australia package, as outlined in ACMA's *Communications Services Availability in Australia 2005–06* report.

To increase broadband penetration, it is necessary to have both greater availability of broadband infrastructure across Australia and higher consumer interest in using broadband services. This requires infrastructure deployment by the suppliers and attractive and affordable offerings to consumers.

While broadband take-up in Australia is still growing, there are inhibitors to universal broadband availability, particularly using fixed-line access. There are physical and technical limitations of the existing technologies and challenges are posed by the great distances between a customer and their exchange in areas of the Australian continent.

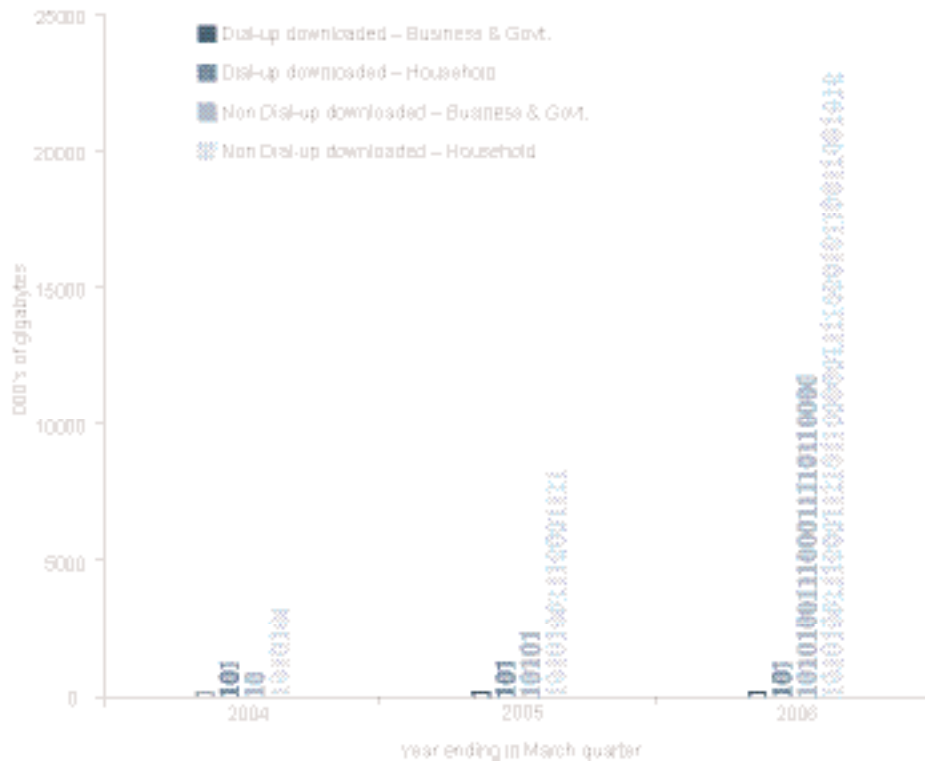
Fixed-line access

Various technologies are available for delivery of broadband over fixed lines. These technologies use existing infrastructure, which has been upgraded to enable broadband access.

The market shares of the different technologies have changed following the increased availability of DSL technology. The number of HFC subscribers has grown steadily, while the number of DSL subscribers increased significantly in 2005–06. ADSL technology is the most commonly deployed of the several variants of DSL, accounting for 91 per cent of DSL connections. Enhanced ADSL technologies such as ADSL2 and ADSL2+ are being rapidly taken up by end-users.

The geographic availability of ADSL services is shown in Figure 5.1.

Figure 5.19: Data use by technology, 2004 to 2006



Source: ABS

Wireless access

Wireless broadband access (WBA) is a generic term for various technologies that use radiofrequency spectrum rather than a fixed line or cable to connect end-users to a communications network. There are different WBA technologies including satellite, WiFi, 3G mobile and WiMAX.

WBA is also supplied in the major metropolitan areas via proprietary technical standards.

Satellite broadband services are available across Australia, but are predominantly used in rural and remote areas, where other infrastructure is unavailable. Because it is often the only alternative in remote areas, the government's Broadband Connect funding initiative subsidises some satellite services.

WiFi services are a type of wireless local area network (WLAN)—a generic term used for equipment that can form data networks with other equipment over short distances (usually less than 500 metres) without the use of connecting wires. WiFi operates on class-licensed radio spectrum, with no licence fees payable.

Mobile broadband services are supplied by the four mobile network operators utilising 2G and 3G mobile networks.

The use of WBA grew substantially in Australia during 2005–06, with growth rates of more than 30 per cent for the last quarter of 2005 and the first quarter of 2006. The ACCC³ reports that in June 2006, there were approximately 99,100 terrestrial wireless broadband end-users. With the inclusion of consumers who access broadband by satellite, there are approximately 123,000 end-users, representing 3.5 per cent of all broadband end-users.

Digital broadcasting

Completing the switch to digital broadcasting will be an important step in the full digitalisation of Australia's communications services. The Australian Government has committed to the development of a Digital Action Plan to encourage take-up of digital television, to bring the current simulcast period to an end, and to achieve switch-over to digital television in 2010–12.

Digital radio is also under development in Australia, with the Minister's announcement in October 2005 regarding the policy framework for its introduction. Subscription television, on the other hand, is well advanced towards fully digital transmission.

Digital television

Although rollout of digital television transmission equipment is well advanced and now includes all major regional centres, more digital transmitters are required to fully match analog coverage. How analog transmission facilities that are installed, owned and operated by communities to provide television services are to operate in a digital environment and conversion strategies for community television broadcasters, television 'narrowcasters', such as tourist information channels, are yet to be formalised.

³ ACCC, *Snapshot of Broadband Deployment*, June 2006

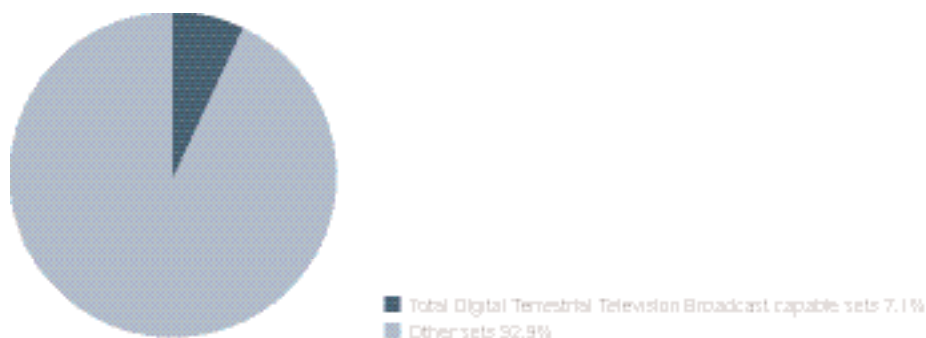
About 85 per cent of the population should have digital broadcast access to all the analog television services in their area. More than 95 per cent of the population has digital access to at least one free-to-air broadcaster digital service. However, the actual penetration of digital consumer equipment into the Australian market is far lower.

Sales reported by Digital Broadcasting Australia's member companies that supply products to retailers and installers indicate that:⁴

- in January 2004, 660,000 digital television sets and set-top boxes had been sold; and
- in 30 June 2006, digital receiving equipment in Australian homes was in excess of 1,740,000.

Allowing for homes with more than one digital broadcast capable television, this translates to a market penetration of around 1.57 million homes, or approximately 20 per cent of Australian homes, an increase from 13 per cent of households in July 2005⁵. If households with digital pay TV are taken into account, this figure could rise to around 37.5 per cent. However, a significant majority of homes are yet to convert to digital television in any form, with only 7.1 per cent of televisions capable of receiving digital terrestrial broadcast.

Figure 5.20: Free-to-air digital televisions within the total stock of television sets, July 2005



Base: all working television sets, N=2,608

Source: ACMA, *Digital Media in Australian Homes*, November 2005

Digital Broadcasting Australia reports that within Australia there are now at least 28 companies producing more than 150 models of digital set-top boxes and integrated digital televisions. An additional but unquantified source of digital television is through TV cards in home computers.

⁴ Digital Broadcasting Australia website, www.dba.org.au

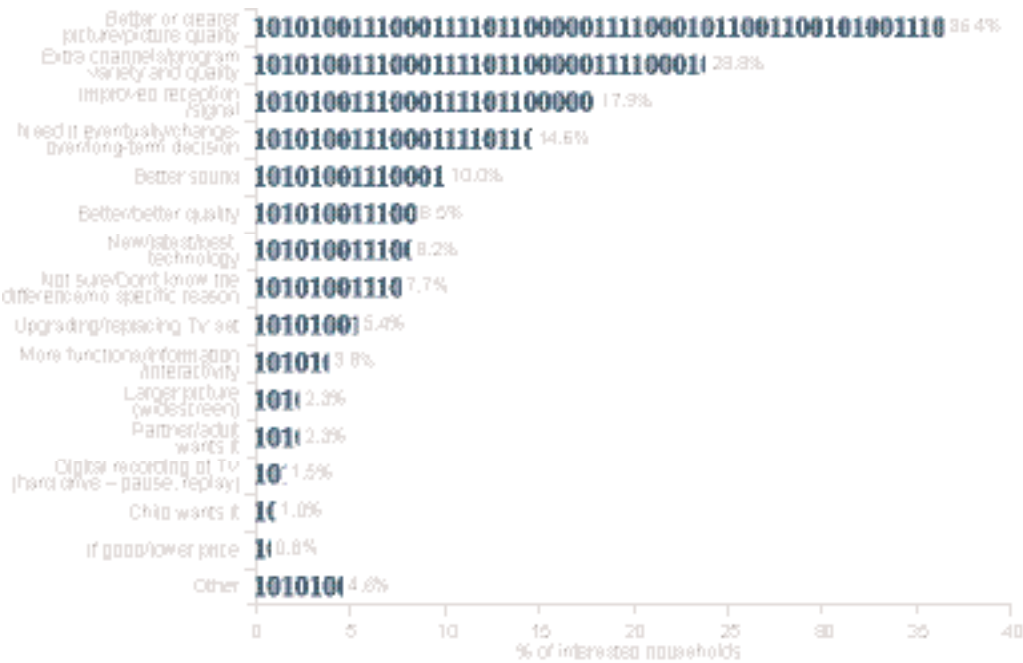
⁵ The ACMA survey reported on in its *Digital Media in Australian Homes* report showed that they received free-to-air digital terrestrial television broadcasting.

Multichannelling

International experience indicates that new content, including access to additional channels provided by existing broadcasters, adds to the appeal of digital television for consumers. ACMA’s *Digital Media in Australian Homes* report showed that:

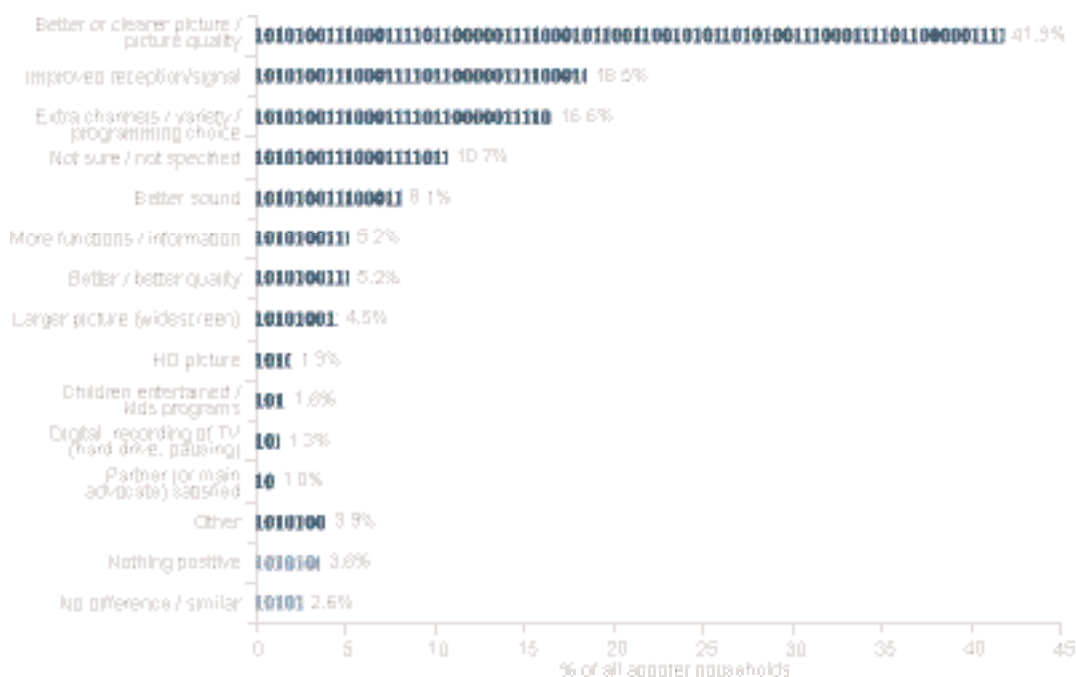
- 23.8 per cent of households interested in terrestrial digital television, but yet to adopt, nominated ‘extra channels or program variety and quality’ as reasons for their interest (see Figure 5.21); and
- 16.6 per cent of households that have actually adopted terrestrial digital television cited ‘extra channels/variety/programming choice’ as the most satisfying features experienced (see Figure 5.22).

Figure 5.21: Reasons for interest in digital terrestrial television broadcasting, July 2005



Base: all interested non-adopter households, N=390
Source: ACMA, *Digital Media in Australian Homes*, November 2005

Figure 5.22: Most satisfying digital terrestrial television broadcasting features, July 2005



Base: all DTTB adopter households, N=308

Source: ACMA, *Digital Media in Australian Homes*, November 2005

Evidence from overseas markets such as the UK suggests that public broadcasters can play a significant role in encouraging digital television take-up by providing attractive new digital content. The national broadcasters (ABC and SBS) provide some limited multichannels, but are currently subject to legislative restrictions on the program genres they can provide. The government will (subject to the commencement of legislative amendments) remove the current legislative restrictions and allowing full multichannelling by the national broadcasters from January 2007.

Commercial free-to-air broadcasters are not currently permitted to provide digital multichannels, but are allowed to provide ‘multiviews’ of the same event and accommodate program overruns. For example, continuing to show a sporting event on one digital channel while commencing a news bulletin on a second digital channel.

Datacasting channels

The government will (subject to the commencement of legislative amendments) allow the use of two spectrum channels (of 7 MHz each) in each licence area currently allocated to datacasting for an expanded range of services, including mobile television (but not including a new free-to-air television or subscription television service). New technical standards may enable approximately 30 mobile TV channels to be provided in a single 7 MHz channel.

In its March 2006 discussion paper, entitled *Future use of unassigned television channels*, ACMA sought stakeholders' views on the potential allocation of these unassigned television channels.

New digital channels

The current legislated embargo on new commercial TV licences outside of the BSB spectrum ends on 31 December 2006. The government announced on 13 July 2006 that new legislation will shift this licensing decision-making from ACMA to the Minister, and that it will not allocate new commercial television licences before the digital switch-over in 2010–12.

The government has also made clear in its discussion paper, *Meeting the Digital Challenge*, that:

The availability of licences for commercial FTA broadcast services to be delivered over platforms other than normal BSB channels would offer an opportunity for new players to enter the industry and new television-like services to be developed over new and emerging platforms. For example, it may be possible to provide commercial television services via satellite or broadband using IPTV technology or terrestrial wireless services in spectrum outside the BSB⁶.

Digital radio

Digital radio broadcasting is a method of assembling, transmitting and receiving radio broadcasts to provide higher quality sound than AM and FM broadcasts. Digital radio can also carry images, data and text, such as station names, song titles and artists' names, and other information such as internet downloads, traffic information, news and weather.

The government initiated an extensive process of industry consultation, research and policy development in December 2004 to examine the most appropriate technology and approach to the introduction of digital radio in Australia. This process culminated with the release by the Minister on 14 October 2005 of a policy framework to guide the implementation of digital radio.

Drawing on the overseas experience with digital radio and on consultations in Australia, the framework recognises that digital radio will supplement existing analog services for a considerable period and may never be a complete replacement. Therefore, unlike digital television, there is no program for ending analog radio transmissions.

⁶ *Meeting the Digital Challenge, Reforming Australia's media in the digital age*, DCITA, 2006

The first stage of introduction will be in the state capital markets where national commercial and wide-coverage community broadcasters operating within the BSB will be provided with an opportunity to commence digital broadcasts by 1 January 2009 (subject to the passage of legislation).

The primary technology platform for these services will be the European Digital Audio Broadcasting, or DAB standard, which is the most mature and widely deployed terrestrial digital radio system internationally. However, the framework recognises that DAB may not be the most suitable platform to address the extended coverage requirements of some regional licence areas. Technologies with potential application for these markets, such as Digital Radio Mondiale or DRM, will continue to be assessed.

The framework also provides for a first right of refusal for commercial and wide coverage community broadcasters to control DAB multiplexes and hold relevant spectrum, supported by minimum entitlements to broadcast capacity and rules to ensure fair and reasonable access to multiplexes. Other categories of BSB services and other markets will be considered at a later stage. Commercial licensees who currently operate outside the BSB can put forward proposals for digital radio services in non-BSB spectrum.

Subscription television

Pay TV can be delivered through several different technologies, including satellite broadcasting, multipoint microwave distribution systems and broadband cable systems. The signal is encoded and consumers require equipment, usually a set-top box, to decode the signals and so view the transmission.

All of the major pay TV services are moving rapidly to transmitting only in digital. Foxtel had one million digital subscribers in late June 2006⁷ and is expected to switch off its analog cable feed in March 2007. ASTRA estimates that 80 per cent of users subscribe to digitally transmitted services.

⁷ Foxtel, Number of Foxtel subscribers 2005–06

Further information about communications services

www.acma.gov.au/CommsReport

Appendixes

- 5.1 Public payphone data
- 5.2 Special digital data service
- 5.3 Customer Service Guarantee data
- 5.4 Network Reliability Framework data
- 5.5 Services for people with disabilities

Data updates

- Australian Bureau of Statistics, *Household Use of Information Technology* (annual release, last released 18 April 2006 for 2004–05)
- Australian Bureau of Statistics, *Internet Activity Survey* (data collected annually, last released 29 September 2006)
- ACMA, *Communications Services Availability in Australia 2005–06* report
- ACMA, NRF data (quarterly)
- ACMA, *Telecommunications performance monitoring data* (quarterly data)
- Telstra, Customer Service Reports – Network Reliability
- Telstra, Digital Data Service Plans
- Telstra, Service Performance Reports (quarterly from June 2001, last released June 2006)
- Telstra, payphone locator service

Documents

- ACMA, *Communications Services Availability in Australia 2005–06* report
- ACMA, discussion paper, *Future of Unassigned Television Channels*, March 2006
- ACMA, *National Relay Service Performance Report*
- ACMA *Payphone Policy Review*, March 2004
- DCITA, *Access for people with disabilities* report, 2005
- DCITA, issues paper, *Meeting the Digital Challenge: reforming Australia's media in the digital age—discussion paper on media reform options*, March 2006

Organisations

Communications Alliance (www.commsalliance.com.au)
 Free TV Australia (www.freetvaust.com.au)
 Human Rights and Equal Opportunities Commission (www.hreoc.gov.au)
 National Relay Service (www.relayservice.com.au)
 Wireless Communications Alliance (www.wca.org.au)

6 Personal protections

Overview

Communications services provide consumers with unprecedented opportunities to communicate, exchange information and access content. They also raise potential risks for consumers, which the government mitigates through legislation, industry self-regulation and consumer education. Chapter 6 reports on industry performance in meeting regulatory protections provided in relation to communications services.

Protection of personal privacy remains a high priority for consumers, a central policy objective for the government and an important business objective for the communications industry. Privacy protections are outlined, followed by a report on the telecommunications industry's information disclosures permitted under the telecommunications legislation.

The telecommunications industry's performance in supplying access to an emergency call service and in providing priority services for people who are at risk of suffering a rapid deterioration in a life-threatening illness is reported.

Trust and security are significant issues in the online environment. The management of spam, internet security, electronic fraud and unsolicited telemarketing are needed in order for the benefits of online commerce and communications to be realised, as reported in this chapter.

While the internet provides a rich resource for information, communication and entertainment, it also presents the potential for children to be exposed to harmful content or to inappropriate contact by adults. This chapter reports on regulatory compliance and education measures, the government's two key strategies that foster a safer online environment.



Balancing personal privacy with social interests

This section sets out the privacy provisions that relate to the communications sector in the context of rapid advances in technology. It also describes the exceptions to the privacy laws, which allow disclosures of personal information to facilitate telecommunications operations, business activities and support broader social objectives.

National privacy scheme

The *Privacy Act 1988* sets out the national privacy scheme to protect personal privacy while upholding competing social interests, including facilitating the free flow of information and the need of business to operate efficiently.

The Privacy Act is underpinned by privacy principles governing the collection, holding, use, correction, disclosure and transfer of personal information by government agencies and private sector organisations. While the Act provides a general exemption for small businesses, the Office of the Privacy Commissioner (OPC) recommended, in May 2005, that internet service providers and public number directory producers that handle large volumes of personal information should be covered by the private sector provisions.

The OPC observes that the development of information technology and the internet have dramatically increased the quantity of information available in digital form and the proliferation of uses of personal information. The migration of personal records to IT systems and wide accessibility of the internet make it easier to collect, collate and distribute information, with potential adverse implications for the privacy of individuals.

More recent developments in communications technologies have further enhanced the ways in which personal information can be collected, tracked and disclosed. For example:

- global positioning capabilities on mobile phones and radiofrequency identification (RFID) technologies could become a means of tracking the movements of individuals or subjecting them to covert surveillance; and
- electronic number mapping (ENUM) and voice over internet protocol lead to greater connectivity and may also allow many more organisations and individuals to have access to associated persons' telephone numbers with their name and physical or electronic addresses.

In January 2006, the Australian Law Reform Commission (ALRC) commenced an inquiry into the continued effectiveness of the Privacy Act, prompted by the rapid advances in information, communication, storage, surveillance technologies and possible changing community perceptions of privacy.

Telecommunications privacy provisions

The Privacy Act and its principles operate alongside other Commonwealth, state and territory legislation and self-regulatory schemes that apply privacy laws to specific sectors and circumstances.

ACMA regulates under core legislation that interacts with the Privacy Act:

- *Telecommunications Act 1997* (the Telecommunications Act)—Part 13 provides for the confidentiality of personal information and the contents of communications, including restrictions on how telecommunications carriers and CSPs may use and disclose personal information. The Privacy Commissioner monitors industry’s compliance with specified record-keeping requirements imposed under Part 13.
- *Spam Act 2003* (the Spam Act)—establishes a scheme for regulating commercial email and other electronic messages (see Chapter 7).

The Attorney-General’s Department administers the:

- *Telecommunications (Interception and Access) Act 1979*—makes it an offence to intercept communications but allows for lawful interception. Carriers and carriage service providers (CSPs) are required, under the Telecommunications Act, to provide interception services authorised under this Act (see Chapter 7).

Underpinning the primary legislation, ACMA has registered under the Telecommunications Act industry codes developed by the Australian Communications Industry Forum (ACIF) that relate to the handling of personal information (see Role of the Integrated Public Number Database) and the Internet Industry Association (IIA) and the Australian Direct Marketing Association (ADMA) relating to e-marketing.

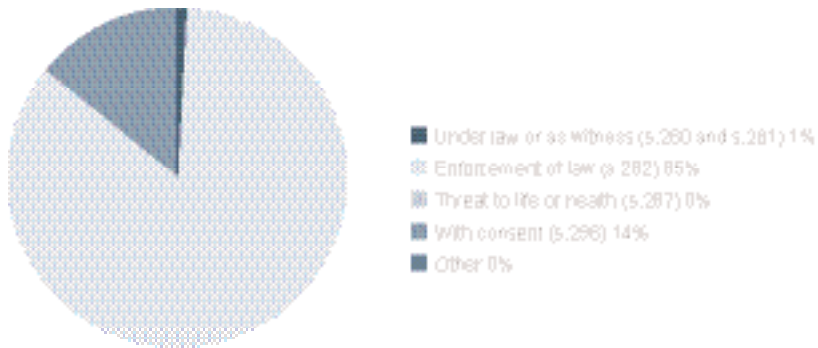
Disclosures of personal information under the Telecommunications Act

The industry, including carriers, CSPs, the Integrated Public Number Database (IPND) Manager and emergency call persons, must not disclose or use personal information except in limited circumstances including:

- assisting in investigations conducted by law enforcement or national security agencies, ACMA, the ACCC or the TIO;
- responding to a threat to a person’s life or health and for calls to the emergency call service; or
- working with other carriers, CSPs and public number directory producers to provide carriage services or related services.

ACMA requires all carriers and CSPs to report annually on the quantity and type of disclosures made under Part 13 of the Telecommunications Act. The number of disclosures in 2005–06 was 944,367, an increase of 58,901 or 6.23 per cent over the previous reporting year.

Figure 6.1: Disclosures of personal information by category, 2005–06



Source: carriers

While the overall trend has been towards increasing disclosures, in 2005–06 disclosures in most categories decreased marginally.

Disclosures made with the knowledge or consent of the person concerned (section 289) were the notable exception, rising sharply from 75,422 in 2004–05 to 133,765 in 2005–06 (a 77 per cent increase). This increase can be explained in part by carriers disclosing customer details for credit-worthiness checks.

Disclosures supporting the enforcement of criminal law, laws that impose a pecuniary penalty and laws that are reasonably necessary for the protection of public revenue comprise the largest category of disclosures. These disclosures support government agency compliance work, for example in relation to taxation and welfare fraud. Further analysis of disclosures to law enforcement agencies is provided in Chapter 7.

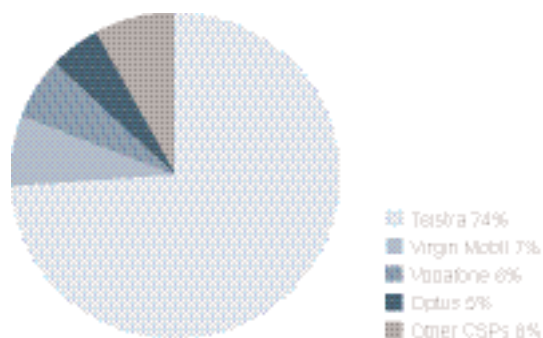
Other law enforcement related disclosures can be authorised by or under laws other than the Telecommunications Act (section 280) or relate to witnesses under summons (section 281). Disclosures authorised by law increased by 298 (two per cent) over the reporting period, while disclosures relating to witness testimony decreased by 11 (14 per cent).

The number of disclosures to assist ACMA and the ACCC—subsections 284(1) and (2) respectively—showed little change between 2004–05 and 2005–06.

The aggregated totals of the quantity and type of disclosures made under Part 13 of the Telecommunications Act for 2003–04 and 2005–06 are shown in Appendix 6.1.

Among the major CSPs, Telstra makes more disclosures than the other carriers both because of its market share and because of its role as the IPND Manager (see Figure 6.2).

Figure 6.2: Disclosures made under Part 13 by carrier, 2005–06



Source: carriers

Role of the Integrated Public Number Database

The IPND is an industry-wide database of all listed and unlisted public telephone numbers, customer name and address information, and the name of the customer's CSP. It is operated by Telstra, under its carrier licence conditions.

Telstra reported that the IPND contained 45,999,620 connected records at 30 June 2006, an increase of 2,413,787 records (or 9.5 per cent) over the past 12 months. At 30 June 2006, 31 carriers and CSPs were listed as data providers to the IPND, compared with 24 at the same time last year. The increase in data providers over the past 12 months was due partly to new market entrants and partly to existing CSPs becoming registered data providers and submitting data to the IPND independently.

Personal information contained in the IPND is a primary source of data disclosed under the Telecommunications Act, although personal information can also be directly sought from, and disclosed by, carriers and CSPs in some circumstances.

To maintain the privacy of the personal information contained in the IPND, Telstra, as the IPND Manager, is only permitted to disclose information from the database for specified purposes and to registered data users. Approved purposes include the operation of the emergency call service, assisting law enforcement and national security agencies, safeguarding national security, providing directory services and publishing public number directories. During 2005–06, the ‘IPNDe’ system was introduced to enable authorised agencies to access IPND data with greater speed and a higher standard of request authentication.

ACMA monitors industry compliance with the privacy obligations in the Telecommunications Act and industry code *ACIF C555:2002 Integrated Public Number Database, Data Provider, Data User and IPND Manager*.

Emergency and priority needs services

Communications regulation places obligations on the telecommunications industry to provide access to the emergency call service, free of charge, on standard telephone services. The emergency call service is an operator-assisted service that connects callers to police, fire or ambulance services in life-threatening or time-critical situations.

The current providers of the emergency call service are:

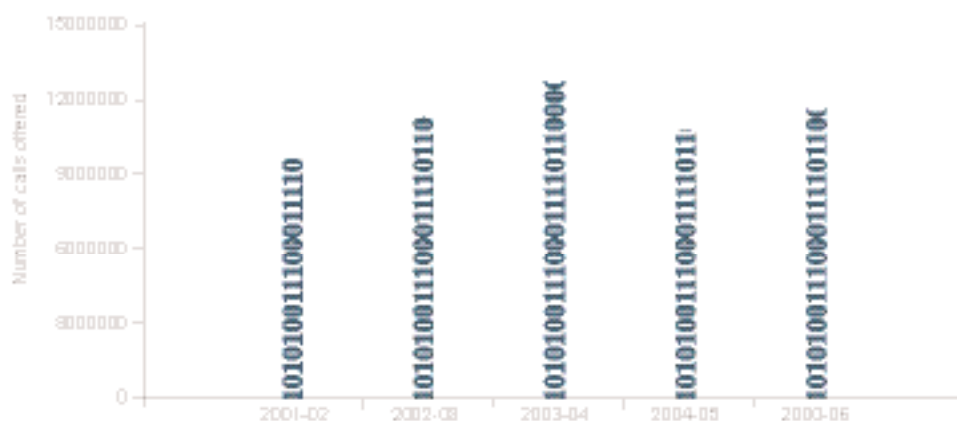
- Telstra for calls made to the primary emergency call number 000 and to the international emergency number 112 for GSM mobile phones; and
- the Australian Communication Exchange (ACE) for calls made to the 106 text service for people who are deaf or have a hearing or speech impairment (see also Chapter 5).

In this section, the volume and type of calls to the emergency call service numbers are set out, along with the performance of the emergency call persons in answering emergency calls. Various factors, such as the incidence of non-genuine calls (and measures, such as automated call answering systems) that influence the performance of the emergency call services are explained.

Emergency call service – 000 and 112

There were 11,588,777 calls offered to the 000 and 112 emergency call service numbers in 2005–06, an increase of 781,150 calls (up by seven per cent) from 2004–05.

Figure 6.3: Emergency call service call volumes – 000 and 112, 2001–02 to 2005–06



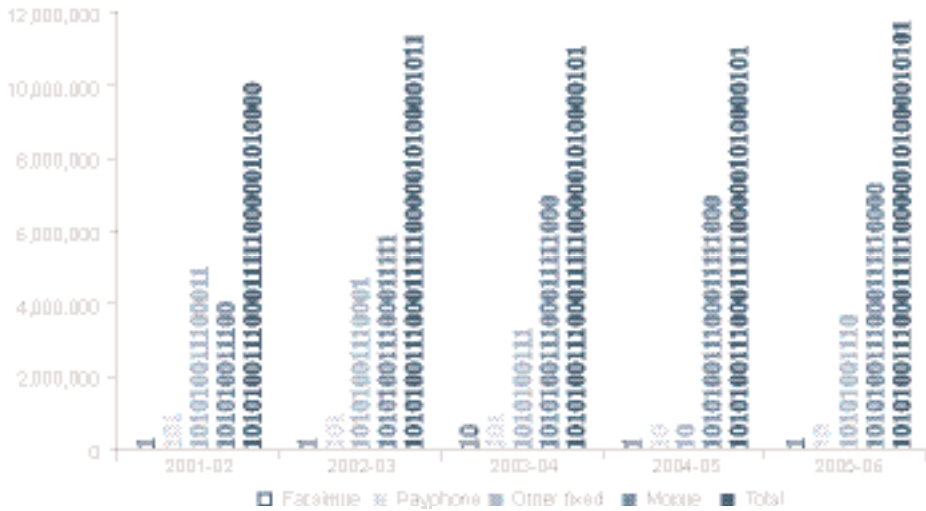
Note: Figures in 6.3 and 6.4 differ slightly because they are sourced from different Telstra systems.

Source: emergency call person (Telstra)

Over the last five years:

- calls from mobile phones increased from 39.5 per cent to 63.4 per cent of all emergency calls;
- calls from fixed-line telephones (including payphones) declined from 58.9 to 36.4 per cent of all emergency calls; and
- fax-generated misdials continued to decline from 1.6 to 0.2 per cent of all emergency calls. The reduction is attributed to the introduction of a system to terminate calls to 000 where too many digits are dialled, thereby eliminating calls from internationally destined faxes.

Figure 6.4: Emergency call origin by service type – 000 and 112, 2001–02 to 2005–06



Source: emergency call person (Telstra)

See Appendix 6.2 for additional emergency call service data.

Performance of Telstra in answering emergency calls

ACMA's *Telecommunications Emergency Call Service Determination 2002* sets out the speed, efficiency and reliability standards for the emergency call person's handling of calls to 000 and 112, as follows:

- 85 per cent of emergency calls answered within five seconds; and
- 95 per cent of those calls answered within 10 seconds.

Telstra continues to perform above the legislated requirement for emergency call answering, with 96.9 per cent of all calls to 000 and 112 answered within five seconds and 98.9 per cent answered within 10 seconds in 2005–06 (see Appendix 6.2).

Factors affecting effectiveness of emergency call service

A significant proportion of calls made to the emergency call service do not relate to genuine emergencies. Non-genuine calls arise as a result of misdials, automatically generated calls from incorrectly programmed fax machines or modems, callers reporting matters which are not emergencies, and hoax and malicious calls.

Measures introduced to reduce the handling time for non-genuine calls include:

- 2002—diversion of caller no response (CNR) calls to an interactive voice response (IVR). Of the 3.9 million CNR calls to 000 and 112 in 2005–06, only 180,000 (4.6 per cent of all CNR calls) continued the call by pressing ‘55’ to be connected to an emergency service organisation (ESO).
- 2004—a system to redirect calls to a recorded voice announcement (RVA) where excess digits are dialled after 000.
- 2004—an RVA that is deployed if extreme events lead to peak traffic conditions, such as a major storm or bushfires.
- 2004—diversion of callers seeking state emergency service (SES) assistance to an RVA advising them that the 000 service does not redirect calls to the SES and they need to call the SES directly.

During 2005–06, ACMA has been working with the emergency call persons and ESOs to determine how to deal with calls made from GSM mobile phone handsets that have the subscriber identity module (SIM) removed (refer to ACMA’s 2005–06 annual report).

Calls connected to ESOs

Emergency call persons transfer emergency calls to the relevant state or territory emergency service answering point, which arranges for the dispatch of an emergency response.

Table 6.1: Emergency call rate connections to ESOs – 000 and 112, 2001–02 to 2005–06

	2001–02	2002–03	2003–04	2004–05	2005–06
Mobile calls not connected	2,958,978	5,191,580	5,937,501	5,317,618	5,398,883
Fixed calls not connected	1,022,624	2,192,464	2,815,149	1,266,661	1,508,728
Calls connected	5,727,775	3,948,657	4,015,738	4,196,430	4,571,520

Source: emergency call person (Telstra)

Over the past five years, while the number of calls to 000 and 112 has grown by approximately 15 per cent, the proportion of calls connected to an ESO has dropped from 59 per cent in 2001–02 to 39 per cent in 2005–06.

Figure 6.5: Mobile call connection rates
– 000 and 112, 2005–06

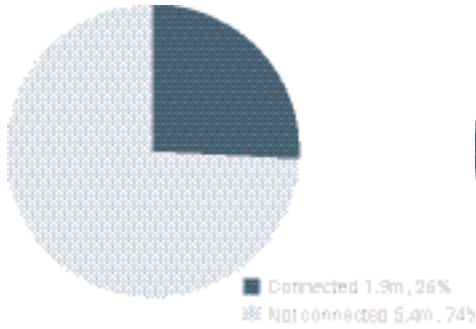
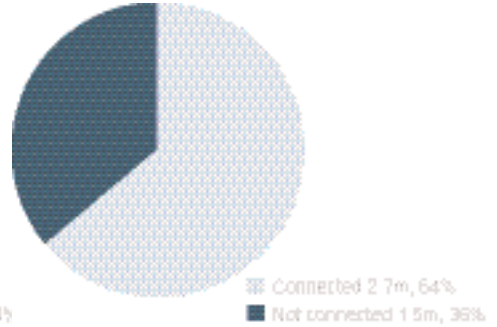


Figure 6.6: Fixed-line call connection rates
– 000 and 112, 2005–06



Source: emergency call person (Telstra)

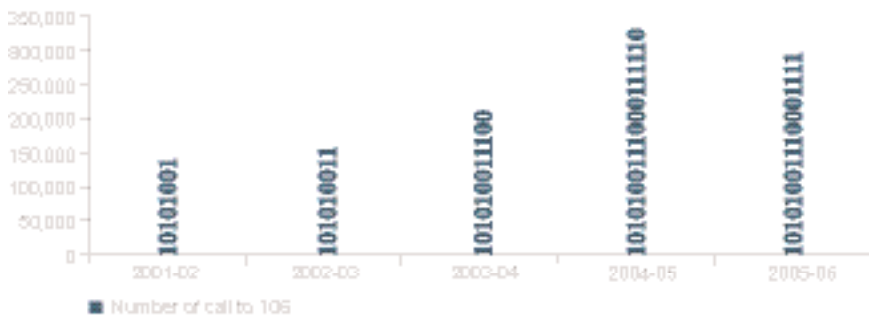
Emergency call service – 106 text service

ACE is contracted by the Commonwealth to provide the National Relay Service (NRS) for people with hearing or speech impairment (see Chapter 7). The service includes a text-based emergency call service on the number 106.

Use of the text emergency call service

During the 2005–06 reporting period, 285,444 calls were made to 106, a drop of 9.6 per cent from the previous year. ACE attributes the reduction in call volumes to the introduction of measures to reduce misdials and hoax calls.

Figure 6.7: Emergency call service call volumes – 106 text service, 2001–02 to 2005–06



Source: emergency call person (ACE)

The number of genuine emergency calls to the 106 service in 2005–06 was 338, a slight increase on the past three years.

Table 6.2: Calls to 106 by call type, 2001–02 to 2005–06

	2001–02	2002–03	2003–04	2004–05	2005–06
Hearing carry over	0	2	2	0	3
Modem	10	6	3	1	1
Voice carry over	30	26	17	14	16
Teletypewriter	364	254	267	262	303
Voice	0	0	9	14	15
Unclassified	65	21	0	0	0
Total	469	309	298	291	338

Source: emergency call person (ACE)

Performance of ACE

The NRS contract includes two performance indicators, which ACMA measures quarterly, for the handling by ACE of emergency calls to 106:

- at least 99 per cent of 106 calls answered within 10 seconds; and
- a call blockage rate of no more than an average of five text emergency service calls per 1,000 (0.5 per cent) to 106 to receive a busy signal.

Table 6.3: 106 emergency call service performance, 2001–02 to 2005–06

	2001–02	2002–03	2003–04	2004–05	2005–06
% calls answered in less than 10 seconds	99.9%	99.9%	99.9%	99.9%	99.9%
Call blockage percentage	0.18%	0.14%	0.35%	0.57%	0.33%

Source: emergency call person (ACE)

ACE continued to exceed its performance targets for the percentage of calls answered within 10 seconds. Call blockage rates, which were below target for 2004–05, were closely monitored in 2005–06 with ACE reporting weekly to ACMA. The call blockage rate indicators improved in 2005–06 and comply with the performance target.

ACE advised ACMA that the high volume of non-genuine emergency calls made to the 106 emergency call service number is the main factor for its poor call blockage performance. Of the 285,444 calls made to 106 in 2005–06, less than 0.12 per cent related to a genuine emergency.

One reason for the high proportion of non-genuine emergency calls is believed to be a result of callers misdialling while attempting to call other geographic or special service numbers. The termination of calls with excess digits is likely to have contributed to a reduction in the number of misdials in 2005–06.

In May 2005, ACE began reporting repeat nuisance callers to relevant law enforcement agencies, with a corresponding reduction in the total number of calls to the 106 text emergency call service since that time.

Accuracy of the Integrated Public Number Database

When emergency calls are transferred to state and territory ESOs the service name and address information sourced from the IPND (see Chapter 7) is carried with the call. Access to address information improves emergency service response times, especially for calls made from fixed-line services.

ACMA has been undertaking audits of the IPND to improve the accuracy of information received by ESOs. The most recent audit of the IPND in April 2005 revealed that 91.5 per cent of records were found to be of a quality that can be regarded as having 'high or good usability' when compared to the referential database, G-NAF (Geocoded National Address File), an improvement of 1.8 per cent on the 2004 audit result. A further audit to test data accuracy is to be conducted in late 2006.

Priority assistance

Priority assistance is an enhanced telephone connection and repair service for people with a diagnosed life-threatening medical condition who are at risk of suffering a rapid, life-threatening deterioration in their condition. The service is offered by Telstra as a requirement of its licence conditions.

Table 6.4: Number of priority assistance customers, 30 June 2004 to 2006

	2004	2005	2006
Telstra	106,124	148,602	169,877
AAPT	n/a	1,124	989
Primus	n/a	2,364	2,120

Source: Telstra, AAPT, Primus

Priority assistance customers are entitled to faster connection and fault repair of their fixed-line telephone service. A service must be connected or a fault repaired within:

- 24 hours in urban and rural areas (an area with a population of more than 200 people); or
- 48 hours in remote areas (with a population of less than 200 people).

Further, if a priority assistance customer experiences two or more faults in a three-month period, the phone service is to be tested to identify the underlying network causes and, if necessary, fixed to a high level of service reliability as soon as possible.

AAPT and Primus have voluntarily offered similar priority assistance services in line with the requirements of the registered industry code *ACIF C609:2003 Priority Assistance for Life Threatening Medical Conditions*.

Priority service connections met within timeframes in 2005–06, on a national basis, are as follows:

- Telstra—95 per cent;
- AAPT—76 per cent; and
- Primus—55 per cent.

Priority service fault repairs met within timeframes in 2005–06, on a national basis, are as follows:

- Telstra—94 per cent; and
- AAPT—78 per cent.

Details of priority assistance performance are at Appendix 6.3.

E-security and unsolicited communications

The convergence of communications, information technology and the internet has created new ways of working for government, business and home users, with 10 million Australians now using the internet for transactions. The government’s Strategic Framework for the Information Economy identifies trust and security as significant issues that place at risk the business productivity and social benefits arising from online commerce and communications.

This section sets out key activities undertaken by ACMA in e-security and the regulation of unsolicited communications in 2005–06. It canvasses developments in the areas of spam, internet security and electronic fraud, outlining relevant policy frameworks and providing a snapshot of core data. An overview of the Do Not Call Register scheme is also included.

E-security

The policy framework to protect Australia’s critical infrastructure and enable effective responses to major e-security incidents is set out in the E-Security National Agenda of 2001. On 30 March 2006, the government announced a review of the e-security framework to take into account new technologies and more serious e-security attacks that are made possible by the convergence of communications technologies.

Spam is the delivery mechanism for the substantial majority of internet e-security breaches. ACMA contributes to the e-security framework through its enforcement of the Spam Act, consumer education activities, technical initiatives, registration of industry codes, and coordination with e-security organisations such as AusCERT. Given the global nature of e-security threats, ACMA also leads and participates in several international organisations aimed at combating spam and its related e-security threats.

Reducing spam

ACMA is responsible for the administration and enforcement of Australia’s Spam Act. On 22 June 2006, the Minister tabled in Parliament a review of the Spam Act undertaken by DCITA. The review found that the Spam Act has provided a basis for curbing the activities of major professional spammers in Australia and for decreasing the amount of spam originating in Australia. The review report recommended that no changes to the legislation were required.

The report noted that, since ACMA commenced enforcement of the Spam Act, Australia had dropped from tenth to twenty-fifth on the list of worldwide sources of spam.

To assist in its spam monitoring functions, ACMA launched its commissioned SpamMATTERS reporting and forensic analysis program on 30 May 2006. The program adds a ‘button’ to a customer’s email application that allows them to simultaneously delete spam from their computer and report it to ACMA.

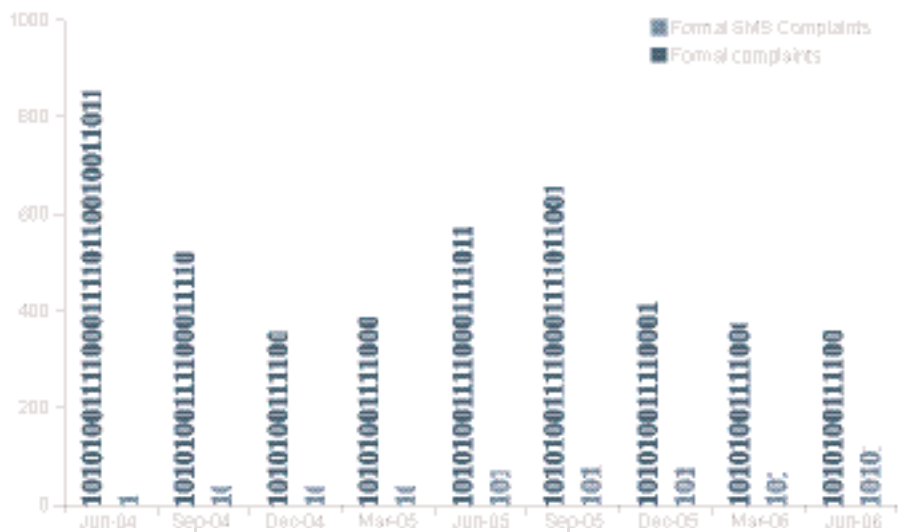
Spam monitoring and compliance

During 2005–06, ACMA received:

- 2,133 formal complaints, of which 1,796 (84 per cent) related to email spam and 337 (16 per cent) related to SMS spam;
- 2.3 million reports of spam since the launch of the SpamMATTERS reporting button (30 May to 30 June 2006);
- three million email reports of spam; and
- 1,400 verbal and written enquiries.

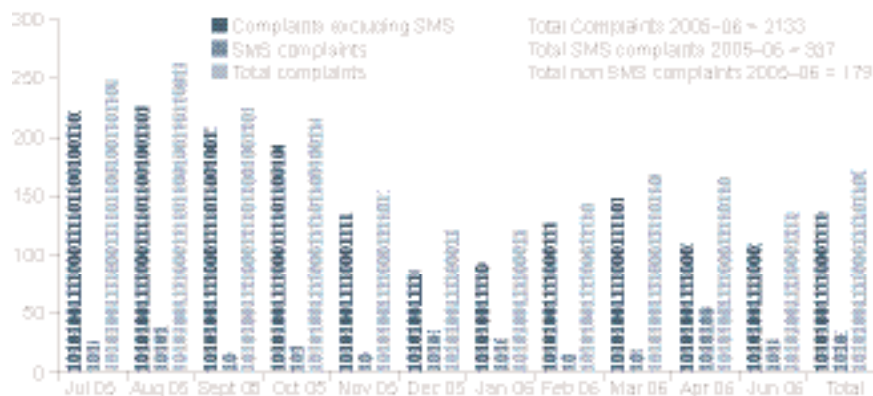
ACMA collects data about complaints received from the public in relation to spam, with SMS spam identified separately. See Figures 6.8 and 6.9.

Figure 6.8: Quarterly spam complaints, April 2004 to June 2006



Source: ACMA

Figure 6.9: Monthly SMS and internet complaints, 2005–06



Source: ACMA

Enforcement actions under the Spam Act

On 13 April 2006, ACMA announced its successful prosecution of Clarity1 Pty Ltd and its managing director, Mr Wayne Mansfield, for several breaches of the Spam Act in the Federal Court in Perth.

Other compliance action taken during 2005–06 includes ACMA writing to 540 companies advising them of their legal obligations; the issue of three formal warning letters to companies or individuals; and requiring three companies and individuals to enter into enforceable undertakings.

Refer to ACMA's annual report for 2005–06 for more information about ACMA's spam compliance, international coordination and education activities.

Industry spam and e-marketing codes

The Telecommunications Act was amended in 2003 to support the making of industry codes to complement spam legislation. The IIA's *Internet Industry Spam Code of Practice* was registered by ACMA on 16 March 2006 and came into force on 16 July 2006.

The code requires all internet and email service providers to:

- offer spam filtering options to their subscribers;
- provide advice about how to deal with and report spam;
- prohibit use of their networks for spamming; and
- cooperate with law enforcement investigations, among other measures.

The Spam Code of Practice complements the *Australian eMarketing Code of Practice*, registered by ACMA on 16 March 2005, which sets out electronic promotional practices to distinguish legitimate e-marketing from illegitimate spam.

Australian Internet Security Initiative

On 7 November 2005, ACMA launched the Internet Security Initiative with six internet service providers (ISPs)—Telstra BigPond, OptusNet, Westnet, Uecomm, Pacific Internet and West Australian Networks.

The Internet Security Initiative passively collects forensic data about computers compromised by an e-security problem, which is typically a form of virus that enables remote control of the computer. Once a computer is compromised in this manner, it can be used for activities such as committing online crimes, hosting illicit material, or spamming.

A key feature of the Internet Security Initiative is ACMA's daily provision to participating ISPs of lists of compromised computers residing on their networks. These ISPs then contact their customers and provide advice about how to resolve the problem. If the owner does not rectify the problem, the ISP may disconnect the computer until it is resolved, which is in accordance with the requirements of the Spam Code of Practice.

Since the trial commenced, the number of compromised computers identified by ACMA has been steadily reducing from around 60 per day to an average of less than 20 per day by the end of June 2006.

Combating electronic fraud

On 16 February 2006, the Australasian Consumer Fraud Taskforce, comprising 18 Australian and New Zealand agencies including ACMA, announced its renewed focus on preventing consumer scams and fraud. The taskforce held a ‘Scam Awareness Month’ and each week highlighted one of the four most common scams currently targeting Australian consumers. Two of the scams highlighted are distributed almost exclusively by email—advance fee fraud scams, also known as Nigerian scams—and phishing—messages usually sent via email seeking to gain illicit access to personal and banking information for the commission of fraud.

Although phishing campaigns and other emails seeking to defraud consumers are covered by the Spam Act, due to the serious criminal threat that they pose to Australian internet users, such campaigns are referred by ACMA to the Australian High Tech Crime Centre or other police forces. ACMA actively participates in all initiatives designed to raise the awareness of such scams among the Australian public.

Do Not Call Register scheme

In response to community concern about the growth in unsolicited telemarketing calls, Parliament passed legislation on 22 June 2006 to establish a Do Not Call Register scheme. The Do Not Call Register will allow individuals to register their home and mobile numbers to opt out of receiving certain unsolicited telemarketing calls, with limited exemptions for public interest organisations. ACMA is responsible for establishing the register and for developing, in consultation with industry and consumers, a national standard to establish a minimum level of conduct by telemarketers.

Fostering a safer online environment

Research has found that approximately 25 per cent of Australian children aged between eight and 13 years own or have regular use of a mobile phone.¹ Children and young adults readily accepted the internet as a key communication tool. A recent study found that:

- 88 per cent of Australian children aged eight to 13 use the internet at home for homework or study;
- 80 per cent use it to play online games;
- 64 per cent use it for email;
- 40 per cent use it for instant messaging; and
- 18 per cent use it for chat rooms.

The rapidly changing communications environment has resulted in content being accessible across many platforms. While the information and entertainment benefits are enjoyed across the community, the online environment presents challenges, including the potential for children to be exposed to harmful content or to inappropriate contact by adults.

¹ ABA and NetAlert, kidsonline@home: *Internet usage in Australian homes 2005*

Two key strategies have been identified to foster a safer online environment:

- protection from harmful content and inappropriate contact through regulation and co-regulatory processes; and
- consumer empowerment and education.

Protection from harmful content and contact

The regulation of online content and audiovisual content access through new media has evolved from content regulation that has applied in broadcasting and other entertainment media. Based on the principle that what is illegal offline should also be illegal online, the current classification framework set out under the National Classification Scheme serves as the reference point for the assessment of online content.

The regulatory framework comprises:

- Schedule 5 to the *Broadcasting Services Act 1992*; and
- the *Telecommunications Service Provider (Mobile Premium Services) Determination 2005 (No.1)*.

On 14 June 2006, the Minister announced her intention to extend the current safeguards that apply to content delivered over the internet and television to all non-broadcasting commercial content services, including certain ‘live’ content such as video content streamed on the internet, in recognition of the need to protect consumers from inappropriate or harmful material on emerging content services.

Three industry codes of practice apply to the fixed and mobile industry in Australia, which comprises ISPs, internet content hosts (ICHs) and mobile carriers. Developed by the IIA and registered in May 2005, the codes contain a range of measures to assist end-users to manage access to internet content for themselves and their children.

Online content safety measures captured in the codes include the requirements that ISPs, ICHs and mobile carriers take steps to:

- manage access by children to online content and restricted mobile content (for example, ISPs must ensure that online access accounts are not opened by children without adult consent);
- provide safety information to users on methods of supervising and controlling children’s access to online and mobile content (for example, filtering software); and
- advise users about the means of making and escalating complaints to ACMA about prohibited online or mobile content.

In April 2006, ACMA audited the 24 largest ISPs’ compliance with the codes. Collectively accounting for 85 per cent of Australian internet subscribers, all 24 ISPs were found to fully comply.

On 11 May 2006, ACMA published its Safety Measures Notice under the *Telecommunications Service Provider (Mobile Premium Services) Determination 2005 (No.1)* and an accompanying guide to implementation. These provide instructions to industry on the types of safety measures that mobile chat room providers might use to address the general risk of illegal contact between children and adults through education and awareness targeted at children, parents and teachers. The obligation to provide safety measures commenced on 11 July 2006 and ACMA will be monitoring compliance with this obligation.

Empowerment and education

Empowering consumers with appropriate skills and tools and providing resources for managing access to online content complements the regulatory framework, and the work of industry and government to implement a coordinated approach. As part of the government's Protecting Australian Families Online initiative announced by the Minister on 21 June 2006, a new National Filter Scheme will provide all Australian families with a free internet content filter. ISPs will be required to offer free filters to new and existing customers.

The provision of technical tools such as internet filters is complemented by strategies to raise community awareness. ACMA provides advice and assistance to families about a range of internet safety matters, primarily through its internet safety website for families at www.cybersmartkids.com.au and related printed resources.

The website was relaunched in January 2006, with new sections on mobile phones, instant messaging, webcams, weblogs and other emerging social networking technologies. A complementary online activity, 'Cybersmart Detectives', was developed for use in schools and teaches children how to stay safe in the online world.

In addition to these related strategies to protect and empower the consumer, ACMA operates a complaints hotline for offensive internet content and collaborates with international agencies to expedite the processing of illegal material referred via this mechanism.

Investigation of consumer complaints about problematic content

Under Schedule 5 to the Broadcasting Services Act, ACMA investigates all valid complaints about stored online content such as website content, newsgroup postings and file sharing content that is likely to be classified RC, X18+ or, if hosted in Australia, R18+.

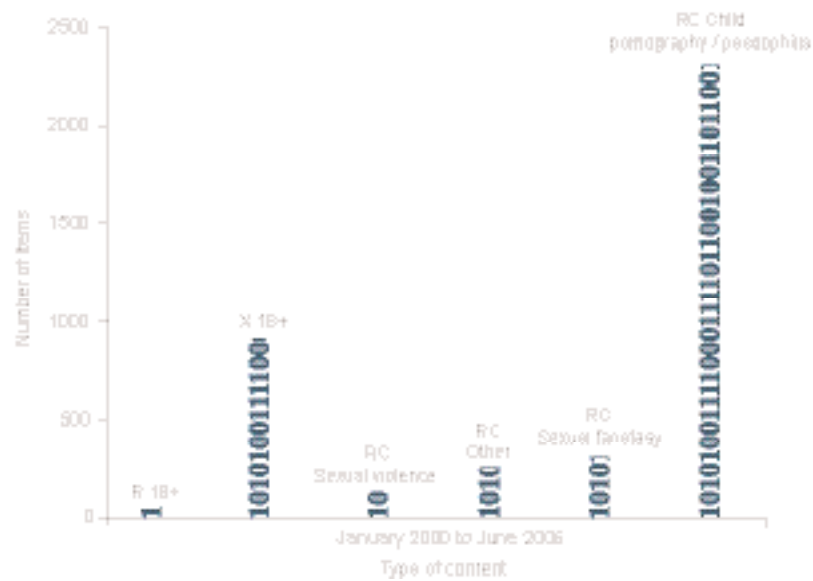
During 2005–06:

- ACMA received 826 complaints about potentially prohibited internet content;
- of these, 638 resulted in completed investigations; and
- 422 investigations resulted in the location of 724 individual items of potentially prohibited internet content.

Since 2000, ACMA has investigated almost 4,000 individual items of potentially prohibited internet content. Almost 60 per cent has been found to relate to child pornography or paedophilia. See Appendix 6.4 for detailed internet content investigation data.

Approximately 95 per cent of potentially prohibited content investigated by ACMA is hosted overseas.

Figure 6.10: Potentially prohibited items investigated by type, January 2000 to June 2006



Source: ACMA

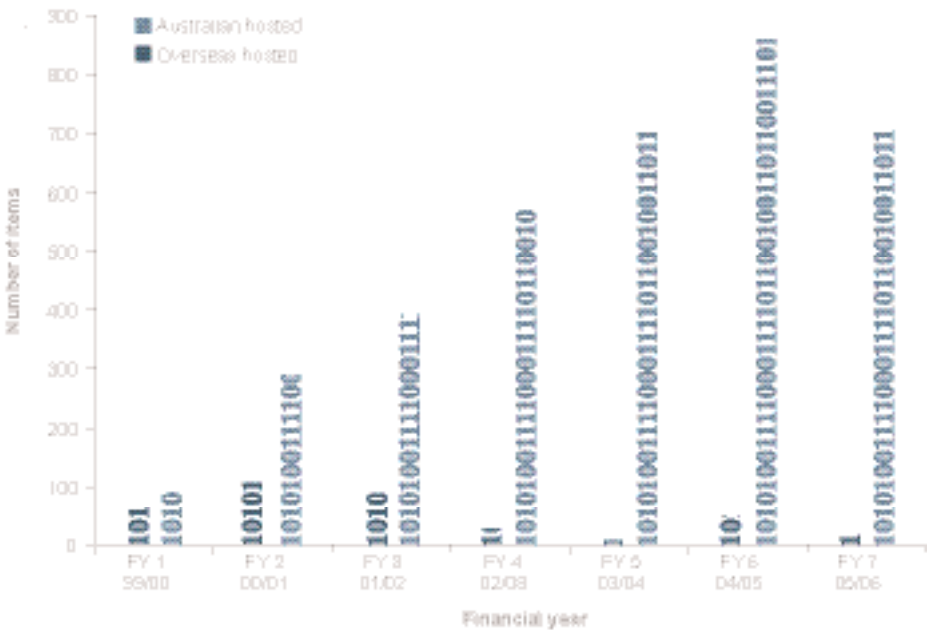
If potentially prohibited content is hosted in Australia, ACMA directs the content to be removed from the internet. If potentially prohibited content is not hosted in Australia, ACMA notifies suppliers of approved filters, in accordance with the registered industry code, for the filters to be updated to block the prohibited content.

During 2005–06:

- final ‘take-down’ notices were issued in relation to 18 items of Australian-hosted prohibited internet content; and
- a total of 706 overseas-hosted prohibited or potentially prohibited items were referred to the makers of internet software filters.

The predominance of potentially prohibited content originating from outside Australia has been a consistent trend over the life of the scheme. Since January 2000, ACMA has taken action in relation to more than 3,600 items of overseas-hosted internet content compared with approximately 350 items of Australian-hosted internet content.

Figure 6.11: Potentially prohibited items investigated by year and location, 1999–2000 to 2005–06



Source: ACMA

Further investigation of sufficiently serious content

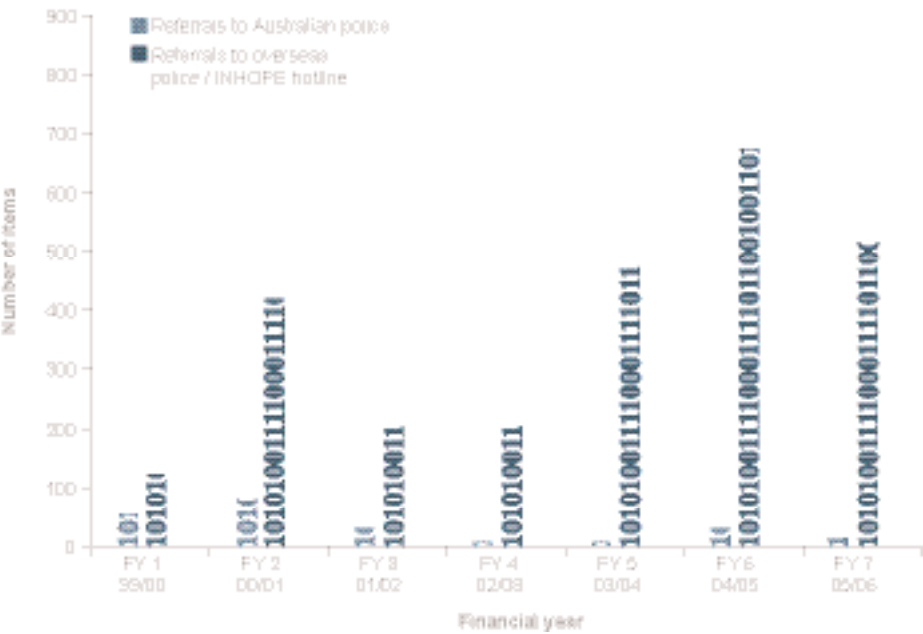
If potentially prohibited internet content is ‘sufficiently serious’ (that is, illegal material such as child pornography), ACMA refers the material to the appropriate law enforcement agency or affiliated overseas internet hotline. For content hosted outside Australia, ACMA refers details of child pornography to the Australian Federal Police or an Internet Hotline Providers’ Association (INHOPE) member hotline for investigation.

Further investigation of sufficiently serious content included the following:

- ACMA referred 456 items of illegal internet content to law enforcement agencies and/or INHOPE member hotlines in 2005–06. Of these, 10 items (two per cent) were referred to police services in Australia.
- Since the scheme commenced (to 30 June 2006), ACMA has referred more than 2,400 items of ‘sufficiently serious’ content to law enforcement agencies and/or INHOPE member hotlines. Of these, 93 per cent were hosted overseas.

The predominance of referrals of illegal content to overseas authorities has been a consistent trend over the life of the scheme.

Figure 6.12: Illegal internet content referred by year and jurisdiction, 1999–2000 to 2005–06



Source: ACMA

International collaboration

Because of the global nature of the internet, international cooperation is a key component of effective regulation.

Schedule 5 to the Broadcasting Services Act charges ACMA with the responsibility of liaising with regulatory and other relevant bodies overseas about cooperative arrangements for the regulation of the internet industry. In the course of implementing Australia’s co-regulatory scheme for internet content, ACMA has participated in a wide range of international regulatory forums and networks.

ACMA has had particular regard to the operation of the Safer Internet Action Plan (SIAP) of the European Union, which has objectives and elements similar to the Australian co-regulatory scheme. The plan is comprised of strategies in the areas of hotlines, filtering, education and awareness. SIAP established and funds INHOPE, which comprises 25 hotlines from 22 countries. ACMA has been a member since 2000.

Further information about personal protections

www.acma.gov.au/CommsReport

Appendixes

- 6.1 Disclosure of personal information data
- 6.2 Emergency call service data
- 6.3 Priority assistance data
- 6.4 Internet content investigation data

Data updates

- ACMA, performance monitoring data tables (released quarterly, including priority assistance data)
- DCITA, *Report on the Co-Regulatory Scheme for Internet Content Regulation* (bi-annual)

Documents

- Asia-Pacific Economic Co-operation (APEC), *Strategy to Ensure Trusted, Secure and Sustainable Online Environment*, November 2005
- Attorney-General, *Terms of Reference: Review of the Privacy Act 1988*, 30 January 2006
- DCITA, Attorney-General's Department and Department of Defence, discussion paper, *Review of E-Security National Agenda*, May 2006
- DCITA report, *Trust and Growth in the Online Environment*, November 2005
- Minister for Communications, Information Technology and the Arts, *Protecting Families Online – Address to the National Press Club*, 14 June 2006
- Office of the Privacy Commissioner, *Information Privacy Principles*
- Office of the Privacy Commissioner, *National Privacy Principles*

Organisations

APEC: Telecommunications and Information Working Group Australasian Consumer Fraud Taskforce (www.scamwatch.gov.au)

Australian High Tech Crime Centre (www.ahtcc.gov.au)

Cybersmartkids Online (www.cybersmartkids.com.au)

Internet Hotline Providers' Association (www.inhope.org)

Internet Industry Association (www.security.iiia.net.au)

International Telecommunication Union (www.itu.int)

NetAlert (www.netalert.net.au)

European Union – Safer Internet Action Plan (www.saferinternet.org)

7 Community and social interests

Overview

The telecommunications regime imposes community or social interest obligations on telecommunications service providers.

These obligations include public consultation requirements for the installation of telecommunications facilities, compliance with the electromagnetic radiation exposure standard and disclosure of information to assist law enforcement agencies. Protection of major undersea telecommunications cables that carry the majority of Australia's international voice and data traffic is also discussed.

This chapter reports on the telecommunications industry's performance in implementing or complying with community interest regulatory obligations.



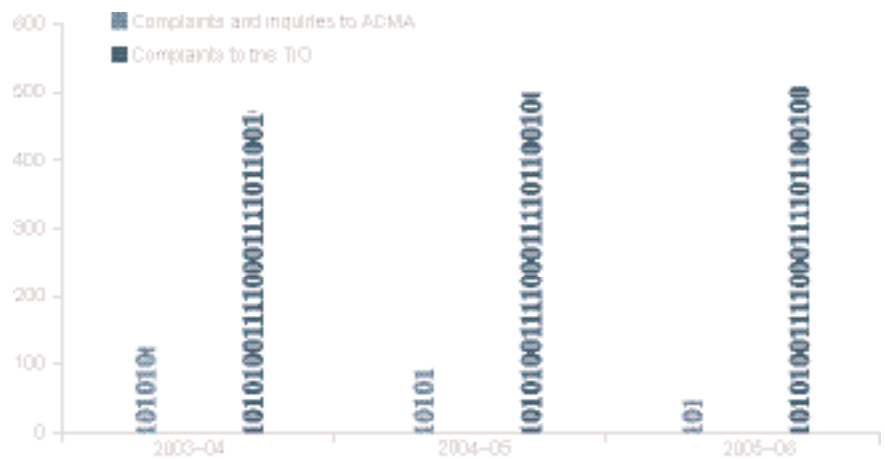
Communications infrastructure regulation

Installation of telecommunications facilities

Licensed telecommunications carriers are authorised to install low-impact facilities without state or local council planning approval under Schedule 3 of the *Telecommunications Act 1997* (the Telecommunications Act). Facilities are low impact if they are specified in the *Telecommunications (Low-impact Facilities) Determination 1997*. The installation of facilities that do not fall within the scope of this determination must be authorised by the relevant state or local council planning scheme. When installing low-impact facilities, carriers must comply with the ministerial *Telecommunications Code of Practice 1997* and the Telecommunications Act.

ACMA monitors industry compliance with its obligations to install infrastructure in accordance with conditions set out in the Telecommunications Act and Telecommunications Code of Practice. The number of complaints and inquiries received by ACMA about the installation of low-impact facilities over the past three years continues to decline.

Figure 7.1: Facility installation complaints received by ACMA and TIO



Source: ACMA and the TIO

The majority of land access complaints to the TIO related to damage to property by carriers and damage to cables and equipment by landowners. Forty-nine complaints related to the failure of a carrier to give notice to the landowner or occupier, an increase of four per cent from 2004–05. During the reporting period:

- 10 objections were referred to the TIO from six carriers—Telstra, Personal Broadband Australia, Vodafone, Optus, Regional Internet Australia and World Without Wires;
- the TIO issued one direction to a carrier about those objections; and
- two objections were not finalised at 30 June 2006.

New cabling activity

ACMA is required, under clause 50 of Schedule 3 to the *Telecommunications Act 1997*, to monitor and report to the Minister on carriers' efforts to place facilities underground.

Carriers install new cable infrastructure for maintenance, customer lead-ins, new trunk routes and to service new suburbs. Most new cabling installations are underground:

- 94.6 per cent in 2004–05; and
- 96.8 per cent in 2005–06.

For 2005–06, 31 carriers reported in relation to cable infrastructure installed:

- all or mainly underground—17 carriers;
- both overhead and underground—four carriers; and
- mainly overhead—three carriers.

For 2004–05, 25 carriers reported in relation to cable infrastructure installed:

- all or mainly underground—18 carriers;
- both overhead and underground—three carriers; and
- mainly overhead—two carriers.

In 2005–06, 26 carriers reported having facilities access agreements with power, gas, road or rail utilities, or with another carrier, predominantly to provide for shared use of underground ducts. In 2004–05, 23 of the 25 carriers reported having facilities access agreements.

Further cabling data is provided at Appendix 7.1.

Removal of overhead cables

Clause 51, Schedule 3 of the Telecommunications Act requires carriers to remove overhead telecommunications lines from poles within six months from when the non-communications lines, such as an electricity cable, have been permanently removed. There is a provision for local government authorities to grant extensions of time or exemptions.

In 2005–06:

- two carriers, Telstra and Neighbourhood Cable, reported that they had removed overhead cabling in response to requests made in the reporting period;
- Ucomm removed cable in response to requests made in the previous reporting period; and
- Optus removed cable, but did not indicate that it was due to a clause 51 request.

Carriers may elect to place the removed lines underground to provide ongoing services to their customers or to not replace the cables:

- Optus advised ACMA that approximately 45 per cent of the removed HFC cable network has not been replaced underground, as it was either located in an area with no customer impact or it was uneconomical to do so.
- When Windytide (Austar) removed its overhead cable in Western Australia in 2004–05 it migrated its customer services to a satellite platform.

Electromagnetic emission regulation

The use of wireless services for telecommunications has been increasing and in some cases is replacing fixed-line services. The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) have developed a standard to regulate electromagnetic emissions (EME) from wireless infrastructure.

ARPANSA is the government agency responsible for radiation research and protection. The ARPANSA EME standard is based on the most recent scientific data available and the limits are similar to the internationally recognised International Commission for Non-Ionizing Radiation Protection (ICNIRP) Guidelines. The ICNIRP Guidelines incorporate significant safety factors and are set well below emission levels shown to have health effects. ACMA has developed an industry standard to ensure that the levels of EME from wireless infrastructure and associated devices comply with the standard developed by ARPANSA.

Wireless infrastructure

Wireless infrastructure must also comply with requirements of the *Radiocommunications Licence Conditions (Apparatus Licence) Determination 2003*, which makes EME exposure limits mandatory for such facilities. Licensees are required to have their facilities assessed against the EME exposure limits and hold specified records that demonstrate compliance. Significant penalties apply for breaches of the EME arrangements.

Mobile phone towers

Following revision, *Industry Code ACIF C564:2004 Deployment of Mobile Phone Network Infrastructure* (the Infrastructure Code) was registered by ACMA in April 2005. The code specifies the steps carriers must take in the placement and operation of mobile phone towers to minimise EME exposure.

As part of the Infrastructure Code's process regarding the placement of towers, carriers are often expected to consult with the community and local councils, have regard to community sensitive locations such as schools or hospitals, and balance these considerations with other factors such as coverage objectives and engineering requirements.

The code also requires carriers to provide members of the public with an EME prediction report, at no cost, where there are concerns about a site. The Mobile Carriers Forum (MCF) has also made EME reports available online at www.rfnsa.com.au. The radiofrequency national site archive provides a listing of all new mobile phone base station facilities built or upgraded since April 2003. The MCF is an industry group comprising the four mobile carriers responsible for mobile phone infrastructure installation in Australia—Hutchison, Optus, Telstra and Vodafone.

ACMA has a role in investigating complaints against the Infrastructure Code. If ACMA finds that a carrier has breached the code, it may take regulatory action under Part 6 of the *Telecommunications Act 1997*. Information about complaints made under the code is provided in ACMA's annual report for 2005–06.

Mobile phones and portable wireless devices

Manufacturers and importers of mobile phones and other portable wireless devices, such as cordless phones, are required to have their products assessed against the EME standard, label products with a compliance mark and maintain compliance records for inspection. The arrangement is underpinned by the *Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003* and the *Radiocommunications (Compliance Labelling – Electromagnetic Radiation) Notice 2003*. Under the *Radiocommunications Act 1992*, suppliers can incur penalties of up to \$165,000 for supplying a non-standard device.

Under an agreement with ACMA, the Australian Mobile Telecommunications Association (AMTA), the peak industry body representing mobile phone manufacturers, has agreed to make specific absorption rate (SAR) measurement values for mobile phones available to the public. SAR is the health exposure measurement and under ACMA's regulatory arrangement must not exceed two watts per kilogram averaged over 10 grams. SAR values are provided voluntarily by manufacturers as part of handset packaging. AMTA also provides the information on its website at www.amta.org.au.

Supporting law enforcement

The telecommunications industry, including both telephone and internet service providers, is obliged to provide reasonably necessary assistance to government agencies, including law enforcement and national security agencies. The most common form of assistance involves the provision of information about consumers of telecommunications services and their communications.

The information is used to assist government agencies in undertaking investigations to enforce the criminal law, enforce laws imposing civil penalties, protect the public revenue and safeguard national security.

This section sets out the number and types of disclosures made by the telecommunications industry to government agencies, the cost of maintaining interception capabilities and the recent government review of relevant legislative provisions.

Disclosures of customer information to government agencies

To protect the privacy of telecommunications customers, restrictions are placed on the disclosure of information by the telecommunications industry (see Chapter 6). Civil and criminal law enforcement agencies must establish or certify that the information they request is reasonably necessary to enable them to perform their law enforcement functions.

Two kinds of information are provided by the telecommunications industry to agencies:

- customer data provided to agencies under the Telecommunications Act; and
- content of communications provided by lawful interception under the *Telecommunications (Interception and Access) Act 1979* (the Telecommunications Interception Act).

Under section 282 of the Telecommunications Act, telecommunications customer data may be disclosed to enforcement agencies by the telecommunications industry:

- without certificate, where the service provider is satisfied that it is reasonably necessary for one or more prescribed purposes; or
- certified, where the enforcement agency certifies that it is reasonably necessary for one or more prescribed purposes.

ACMA encourages the telecommunications industry to seek certification for requests, wherever possible, as this places the decision-making with qualified law enforcement professionals and removes the responsibility for exercising discretion from telecommunications service providers.

In 2005–06, 52 per cent of the 786,731 disclosures to law enforcement agencies were uncertified, compared with 53 per cent in 2004–05 and 60 per cent in 2003–04.

Figure 7.2: Disclosures of customer information to law enforcement agencies – percentage certified, 2005–06



Source: carriers

In 2005–06, there was a slight reduction in the overall number of requests, but the trend towards certified rather than uncertified disclosures continued. See Figure 7.3 and data at Appendix 6.1.

Figure 7.3: Disclosures of customer information under section 282 of the *Telecommunications Act* 1997, 2000–01 to 2005–06

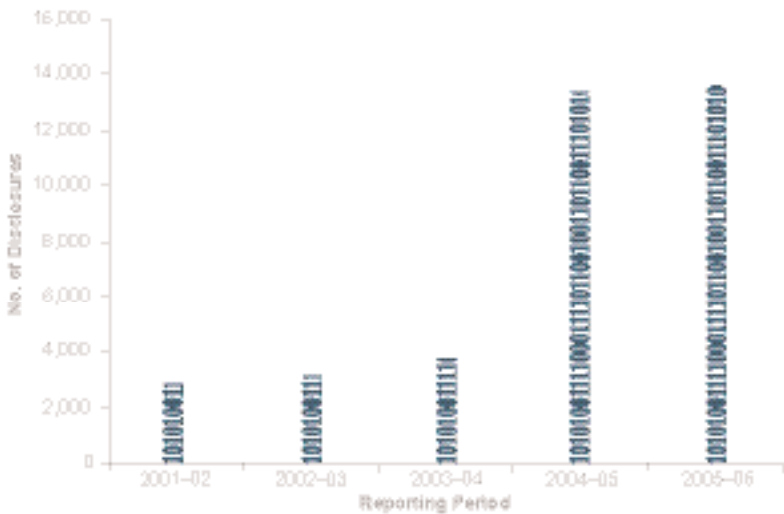


Source: ACMA

Disclosures of customer information to agencies under other laws

In 2005–06, the number of disclosures authorised by or under law (subsection 280 of the *Telecommunications Act*) rose slightly from 13,336 to 13,634 disclosures, stabilising after a marked increase between 2003–04 and 2004–05. See Figure 7.4.

Figure 7.4: Disclosures of customer information authorised by or under law (section 280), 2001–02 to 2005–06



Source: ACMA

Interception

The content of communications between users of telecommunications services is strictly protected in Australia, as one of the most crucial areas of privacy protection. Lawful interception may only be provided to law enforcement and national security agencies in accordance with a warrant under the Telecommunications Interception Act. Interception for other purposes is prohibited, with criminal penalties for breaches.

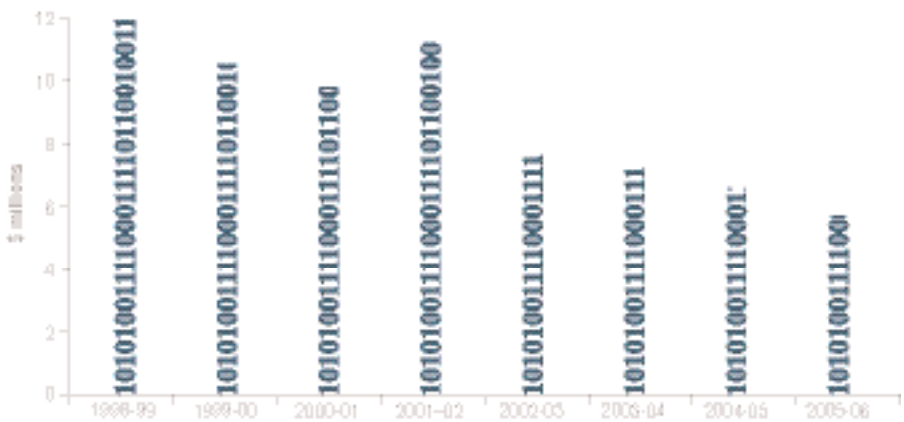
Cost of providing assistance

All carriers and carriage service providers, unless exempted, are required to develop, install and maintain an interception capability for each carriage service provided in Australia.

While the telecommunications industry is generally permitted to recover from enforcement agencies the cost of providing requested and certified information or assistance, it is required to cover the cost of providing an interception capability in its networks. This is designed to encourage industry to identify and implement the most cost-effective technical solutions for interception and to factor interception into the development of new services at an early stage.

In 2005–06, the cost to industry of developing, installing and maintaining interception capabilities was \$5,749,108, continuing a downward trend since 2001–02.

Figure 7.5: Cost of maintaining interception capabilities, 1998–99 to 2005–06



Source: ACMA data request to telecommunications carriers

Review of assistance regime

The legislative regime surrounding the provision of assistance to law enforcement and national security agencies is currently under review. Mr Anthony Blunn AO was appointed in March 2005 to determine whether amendment was required to the interception regulatory regime to account for changes to technology that have taken place since the introduction of the Telecommunications Interception Act. Mr Blunn reported in August 2005 on the operation of the Telecommunications Act as it interacts with the Interception Act.

The *Telecommunications (Interception) Amendment Act 2006* implemented a number of recommendations of the Blunn Report, establishing a warrant regime for law enforcement agency access to stored communications, equipment-based interception and other changes to the telecommunications interception regime.

Protecting national information infrastructure

Submarine cable protection

Submarine telecommunications cables carry around 99 per cent of Australia's international voice and data traffic and are worth more than \$5 billion a year to the economy. The importance of these cables to our economic and social interests is increasing rapidly, with Australia's use of international bandwidth growing by 69 per cent this year—up from 64 gigabytes per second (GB/s) to 157 GB/s, more than doubling since 2004.

Three submarine cables currently carry the bulk of this international voice and data traffic:

- landing in Sydney is the Australia Japan Cable, with 640 GB/s capacity;
- the Southern Cross Cable, which also lands in Sydney and consists of two cable routes, each with 480 GB/s capacity; and
- the SEA-ME-WE3 cable lands near Perth, with 40 GB/s capacity.

Table 7.1: International and in-service submarine cables landing in Australia

Cable	Year in service	Route	Capacity
Australia Japan Cable*	2001	Australia (Sydney)—Guam—Japan	Potential 640 GB/s
Southern Cross Cable*			
SX-1	2000	Australia (Sydney)—New Zealand—Hawaii—USA	Potential 480 GB/s
SX-2	2000	Australia (Sydney)—Fiji—Hawaii—USA	Potential 480 GB/s
SEA-ME-WE3*	1999	Australia (Perth)—Indonesia—Singapore	40 GB/s
Jasaurus	1997	Australia (Port Hedland)—Indonesia	5 GB/s
Tasman 2	1992	Australia (Sydney)—New Zealand	2 x 560 MB/s

* Denotes cables that have been identified as nationally significant

Source: ACMA

ACMA is aware of two proposals for the installation of new submarine cables connecting Australia with other countries. One new cable will link Australia (via Sydney) with New Caledonia, while the other (a very high capacity cable) is proposed to land in northern Western Australia and connect with south-east Asia.

Cable damage or breakage impedes information flow, affecting the capacity of Australians, particularly businesses, to communicate internationally. While major cable faults within Australian waters are rare, they do occur from time to time.

In 1999, the National Bandwidth Inquiry recommended that the Australian Government establish protection zones over submarine telecommunications cables of national significance; increase penalties for damaging these cables; and establish a permit regime for the installation of new cables. These recommendations were incorporated into legislation in 2005 when the government added Schedule 3A to the Telecommunications Act.

In August 2006, ACMA published its proposals for establishing protection zones for two existing cables of national significance off the Sydney coast. Within these protection zones, ACMA proposes to prohibit or restrict activities that pose a potential risk to submarine cables.

Figure 7.6: Major submarine cable connections to Australia and Asia



Source: ACMA

Further information about community and social interests

www.acma.gov.au/CommsReport

Appendixes

7.1 Telecommunications cabling data

Documents

- Attorney-General’s Department, *The Telecommunications Interception Act 1979 report for the year ending 30 June 2005*
- ACIF (now Communications Alliance), *Industry Code C564:2004 Deployment of Mobile Phone Network Infrastructure*
- ACMA EME web portal (emr.acma.gov.au)
- Blunn, Anthony S *Report on the Review of the Regulation of Access to Communications*, Commonwealth of Australia, 2005

Organisations

Australian Radiation Protection and Nuclear Safety Agency (www.arpansa.gov.au)

International Commission for Non-Ionizing Radiation Protection (www.icnirp.de)

Mobile Carriers Forum (www.mcf.amta.org.au)

Radiofrequency National Site Archive (www.rfnsa.com.au)

World Health Organization Electromagnetic Field Project (www.who.int)

8 Services in remote Indigenous communities

Overview

This chapter reports on communications services in remote Indigenous communities, focusing specifically on the take-up and performance of telecommunications services and access to broadcasting services. It also reports on the progress of telecommunications product and service trial initiatives and the role of remote Indigenous media organisations (RIMOs) in facilitating access to communications and media services in communities.

Indigenous communities are among the most remote and disadvantaged in Australia. People living in remote Indigenous communities have special needs in relation to the provision and maintenance of telecommunications services.

The need for more culturally appropriate telecommunications products and services has been recognised by government reviews including the ACA's *Payphone Policy Review* report of February 2004 and DCITA's *Universal Service Obligation and Customer Service Guarantee Report* of June 2004.



Access to telecommunications services in remote Indigenous communities

ACMA's data collection and monitoring arrangements for telecommunications services in remote Indigenous communities were implemented as part of its response to recommendation 5.3 of the Regional Telecommunications Inquiry. These arrangements allow a more focused assessment of telecommunications issues in remote Indigenous communities.

ACMA monitors the range and take-up of telecommunications services through analysis of the Telecommunications Action Plan for Remote Indigenous Communities (TAPRIC) database. The TAPRIC database contains detailed information on community-managed Indigenous communities. ACMA analyses information on telecommunications availability collected from Telstra annually for more than 1,000 discrete Indigenous communities listed in the database. This analysis is augmented by a program of site visits, which provides direct insights into access to, and performance of, telecommunications in remote Indigenous communities.

The range of services available in remote Indigenous communities includes the standard telephone service (STS), payphones, mobile coverage and community phones. In addition, there are pre-paid services provided under four Networking the Nation projects, which involved the rollout of pre-paid residential telephone services to Indigenous households in Western Australia, South Australia, the Northern Territory, Cape York, Mornington Island and the Torres Strait.

Table 8.1 shows that the total numbers of services reported by Telstra has increased from June 2005 to June 2006. Increases in the number of payphones and STSs reported could be due to both improved reporting on the number of services in communities, as well as improvement in the availability of services. This is a reflection of the challenges involved in compiling accurate data regarding services in remote Indigenous communities.

The near completion of service delivery under the TAPRIC Community Phones Program (CPP) has resulted in increased availability of telecommunications in communities, with 187 community phones delivered during 2005–06.

Table 8.1: Number of services in remote Indigenous communities, 2005–06

	June 2005	June 2006
Number of payphones	897	958
Number of STSs (fixed/home phone)	13,985	17,045
Number of community phones	39	236
Number of InContact services	447	536

Source: Telstra

ACMA has examined availability of telecommunications in communities in terms of access to services in communities of a particular size, as a proportion of total communities reported on by Telstra for 2005–06. From the total communities reported on by Telstra:

- 53 per cent have access to at least one payphone;
- 14 per cent have access to at least one community phone;
- 58 per cent have access to at least one STS; and
- 73 per cent do not have terrestrial mobile coverage.

Communities with fewer than 50 members are more likely to have limited access to telecommunications. More than half the communities without payphone access have fewer than 20 members. This was also true for STS access.

See Appendix 8.1 for more detailed information about access to telecommunications services in remote Indigenous communities.

During 2005–06, progress was made in relation to trials of innovative and culturally appropriate products and services under the TAPRIC CPP. The CPP is aimed at improving access to basic telecommunications services for people living in remote Indigenous communities and comprises the following trial initiatives:

- provision of community phones;
- robust phone casing;
- regional agents;
- Telstra Country Calling Line and Country Calling Card services; and
- deployment of CDMA wireless local loop (WLL) technology.

A community phone is a shared telephone service using a normal telephone handset but placed in a location where there is 24-hour access, with each community responsible for the care of the phone. Under the CPP, Telstra was awarded a \$3 million contract by DCITA to install up to 240 community phones in selected remote communities in central Australia, Broome, Kununurra, Tennant Creek and the Tiwi Islands. The contract for rollout of the community phones under the CPP was scheduled for completion by the end of September 2006.

Community phones can be provided with a robust steel phone casing, which is designed to overcome extreme weather conditions and resist breakages. The casing was developed jointly by the Centre for Appropriate Technology (a national Indigenous science and technology organisation) and Telstra. Phones with robust casings provide a card-only service and require pre-paid calling cards to make calls.

Regional agents are responsible for liaison between telecommunications providers and remote Indigenous communities. During 2005–06, regional agents promoted services offered under the CPP to eligible communities and conducted training for use and maintenance of the community phone.

The Telstra Country Calling Line is a pre-paid residential telephone service where the customer opts to have the phone line rental charge debited from their Centrelink payments. The Country Calling Card enables people in remote Indigenous communities to make pre-paid telephone calls from community phones, home telephones and payphones. Telstra reported that at the end of June 2006, 38 Country Calling Lines had been deployed and more than 7,000 Country Calling Cards had been sold in remote Indigenous communities.

Under the CPP, Telstra contributed \$1 million to trial CDMA WLL access technology in the Dampier Peninsula, north of Broome in Western Australia. Rollout of this trial was completed in 2005–06.

Site visits to communities in the Dampier Peninsula found that community leaders were very positive about the trial sites and the opportunities that the availability of a range of communications services brings to the region.

Access to broadcasting services in remote Indigenous communities

8

Remote Indigenous Broadcasting Services (RIBS), previously known as BRACS under the Broadcasting in Remote Aboriginal Communities Scheme, are licensed by ACMA as community broadcasting services. At June 2006, there were 160 licensed RIBS in remote Indigenous communities throughout Australia, comprising 80 television broadcasting licences and 80 radio broadcasting licences.

ACMA has undertaken a stocktake of broadcasting services and infrastructure in these communities to assist the Community Broadcasting Foundation to allocate government funds for the rollout of transmitters in RIBS communities. The rollout of additional transmitters will allow for the retransmission of Indigenous community television services and access to a channel dedicated to Indigenous programming.

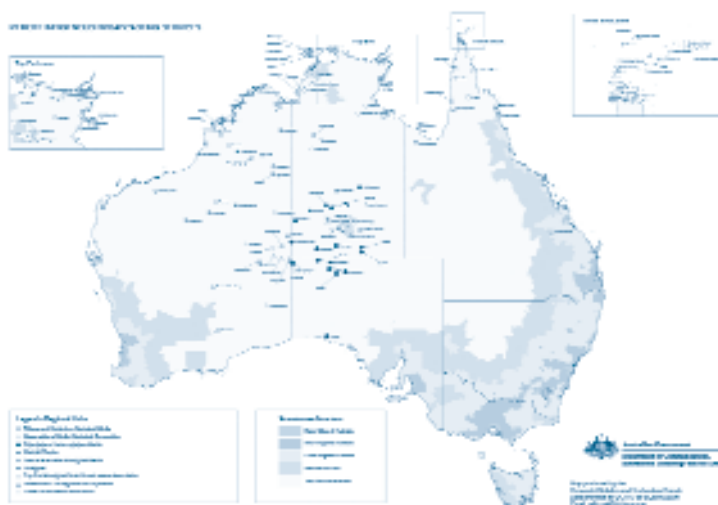
Role of Indigenous media organisations in remote Indigenous communities

Through consultations with representatives of Ngaanyatjarra Media and Pitjantjatjara Yankunytjatjara (PY) Media, ACMA has observed that the roles of these two RIMOs have expanded from the production, broadcasting and archiving of local Indigenous content, to include telecommunications delivery, promotion and advocacy in their activities. Figure 8.1 depicts the location of broadcasting services in remote Indigenous communities coordinated by RIMOs.

PY Media is a community owned and managed media organisation based in the north-western desert of South Australia, servicing Anangu Pitjantjatjara people in an area covering 300,000 square kilometres.

Ngaanyatjarra Media is the media coordination point for 14 communities in the Ngaanyatjarra Lands, located in the western desert region in an area of approximately 250,000 square kilometres. Three communities in the Ngaanyatjarra Lands have community broadcasting service licences.

Figure 8.1: Broadcasting services in remote Indigenous communities serviced by RIMOs



Source: DCITA

As the coordination point for RIBS communities, PY Media and Ngaanyatjarra Media manage the media operations (including programs for broadcast and music production), training, support, repair and maintenance of broadcasting facilities in these communities.

ACMA has observed that as an extension of their community development role, PY Media and Ngaanyatjarra Media fulfil various roles in facilitating access to telecommunications services in communities. Specific examples of these roles described by PY Media or Ngaanyatjarra Media include the following:

- Community advocacy—Ngaanyatjarra Media is the liaison between communities, the state government and Telstra regarding a program to deliver broadband infrastructure to six Ngaanyatjarra communities under the Coordinated Communications Infrastructure Fund (CCIF). Ngaanyatjarra Media reported that its role was to represent communities' needs in relation to cost, community access, sustainable and low maintenance infrastructure, and local employment opportunities.
- Facilitating applications and delivering training for community phones under the CPP—PY Media is contracted by DCITA as the regional agent for the CPP.

- Provision of telecentres for internet access—ACMA observed that the Ngaanyatjarra Media telecentre is a popular resource for people in the Irrunytju community. The provision of a dedicated venue, training in computer skills and internet banking, technical support and access to Indigenous content operate in an integrated manner, resulting in high community take-up of the internet service.
- Telecommunications information provision—PY Media's PYTel campaign provides people in communities with information about their telecommunications rights, promoting the Telstra Indigenous Call Centre, ACMA and the TIO to communities in Indigenous language through PY Media's 5NPY radio and ICTV (Indigenous community television) broadcasts and its website.
- Distribution point for pre-paid calling cards—Ngaanyatjarra Media sells Telstra PhoneAway cards at its telecentre. This is an important community service in remote locations where there may be limited options for the distribution of phone cards.

Government initiatives for communication services in remote Indigenous communities

In August 2005, the Australian Government announced the allocation of \$89.9 million in funding for communications in Indigenous communities under the Backing Indigenous Ability program. Commencing 1 July 2006 and running for four years, the program covers both broadcasting and telecommunications as follows:

- the \$36.6 million telecommunications component aims to address the need in remote Indigenous communities in areas such as telephones, internet, videoconferencing, online content and training; and
- the \$53.3 million broadcasting component will replace ageing and unreliable radio infrastructure and strengthen access to the cultural benefits of Indigenous television.

Performance of services in remote Indigenous communities

Snapshot study – performance of services and in the Desert and West Kimberley remote Indigenous regions

ACMA has conducted a study to provide a snapshot of the quality and performance of services in remote Indigenous communities, as part of its ongoing monitoring of STSs under the USO, the CSG and the NRF.

This is the second year of ACMA’s snapshot study program to examine the quality of service in remote Indigenous communities. The snapshot study provides an indication of relative performance levels in selected regions and makes use of current industry reporting systems by:

- performance monitoring through analysis of Telstra data on the performance of particular exchange service areas (ESAs) against NRF and CSG measures; and
- field monitoring through consultation with selected remote Indigenous communities to independently assess and verify network availability, serviceability and customer satisfaction with connections and fault rectification.

The 2005–06 snapshot study examines quality of service in two areas:

- the Petermann and Everard ESAs (the ‘Desert’ area); and
- the Leopold and Roebuck ESAs (the ‘West Kimberley’ area).

Telstra is the main supplier of telecommunications services to these regions and was the source of CSG and NRF performance information. Table 8.2 shows the broader geographic areas to which the selected ESAs belong.

While ACMA’s snapshot study provides an indication of relative performance levels in the selected areas, it should be noted that any conclusions regarding performance must be qualified by the effect of the small sample sizes in the study areas, and must be understood in light of the particular geographic and climatic conditions experienced in areas as remote as the study areas. These conditions include physical distances and environmental factors such as flooding and cyclonic winds.

Table 8.2: Snapshot study area and broader geographic areas under the NRF and CSG

Selected ESAs	NRF field service area (FSA)	CSG categories
Petermann, Everard (Desert area)	SA Central Australia	Remote (national and Northern Territory)
Leopold, Roebuck (West Kimberley area)	WA Northern	Remote (national and Northern Territory)

Source: Telstra

ACMA also used observations from field monitoring to provide direct insights into the NRF and CSG performance measures. ACMA staff consulted community leaders such as chairpersons of the local community government council and others who could speak on telecommunications issues, such as community development advisors and Indigenous media organisations.

Regional profiles

The Desert area spans sections of South Australia, Western Australia and the Northern Territory. ACMA's consultations focused on the Ngaanyatjarra Lands, which encompass sections of the Gibson, Great Sandy and Great Victoria deserts in Western Australia, and the Anangu Pitjantjatjara Yankunytjatjara Lands in South Australia and the Northern Territory. The West Kimberley area is located along the far north of the Western Australia coastline, which includes the Dampier Peninsula, visited by ACMA in its role as part of the Indigenous Telecommunications Steering Group.

The snapshot study areas cover a significant area of Australia's land mass. Telstra estimates that the four ESAs of the snapshot study comprise 13 per cent of the total area of all 251 CSG remote ESAs. Figure 8.2 and Table 8.3 depict the location of the snapshot study areas, and the number of remote Indigenous communities and fixed services in operation in the study areas.

Figure 8.2: Location of snapshot study areas



Source: Population and community data—2001 ABS report on Housing Infrastructure in Aboriginal and Torres Strait Islander Communities (the CHINS survey)

Table 8.3: Number of communities, population and number of fixed services in snapshot study areas

Snapshot study area	Number of discrete remote Indigenous communities	Total population of remote Indigenous communities	Number of fixed services in operation	Number of CSG-eligible services in operation
Desert	79	4,452	976	401
West Kimberley	72	4,540	755	415

Source: *Population and community data—the CHINS survey; telecommunications data—Telstra, August 2006.*

Snapshot findings

Service availability and quality of service performance

Under the NRF, Telstra provides detailed network performance reports on faults in its fixed-line network. All Telstra services covered by the CSG (residential and small business customers with five lines or less) are included. This snapshot uses the same NRF measures as Chapter 5.

Telstra's fixed-line network in selected remote Indigenous communities was generally available (that is, not awaiting repair) for less time in the three ESAs of Leopold, Roebuck and Petermann than in the wider FSAs to which those ESAs belonged. The fourth ESA, Everard, had a similar availability to the FSA in which it belonged. Availability of fixed-line services in all four ESAs was lower than the national average.

Services in the WA Northern FSA were available for an average of 99.88 per cent of the time in each month in 2005–06. This performance translates into services being unavailable for an average of 10 hours over the year, above the national average of six hours a year.

During 2005–06, services in the West Kimberley communities were available on average for significantly less time over the year than services in the broader FSA of WA Northern. While this result may be reflective of the challenges posed by seasonal factors and the environmental characteristics of the region, this differential may be due to the small sample size. Consequently, a small number of faults will have a larger impact on the availability measure than in a more populous sample. There were no Level 2 or 3 NRF breaches in the West Kimberley area during the year.

Overall, the SA Central Australia FSA recorded a monthly average availability of 99.92 per cent during 2005–06, which equates to the average service being unavailable for seven hours a year, compared with the national average of six hours a year.

While the Everard ESA's availability was in line with the SA Central Australia FSA, Petermann ESA's availability was clearly below it. Petermann is the only ESA to have breached the Level 2 threshold, which occurred in 2003 with three services in breach. Neither of these ESAs has breached Level 3 of the NRF. While both ESAs provide small sample sizes, which may have exaggerated the difference in performance for Petermann, qualitative evidence sourced from the Desert communities also suggests that the ESA is less reliable than for the SA Central Australia FSA in general.

ACMA was advised of reliability issues with some STSs in the Desert area, which related to phones losing connection or ringing out, and buzzing sounds on the line. Weather conditions have an impact on those services that have satellite connections, with reliability worse during the summer wet season. Community representatives reported that some of the reliability issues are expected to be resolved by the upgrade of satellite phone services to optical fibre services as part of a future infrastructure deployment.

Service repair and connection performance

Under the *Telecommunications (Customer Service Guarantee) Standard 2000 (No.2)* (the CSG), services in remote areas are generally required to be repaired within three working days of a customer reporting a fault. The CSG also requires new services to be connected within a specified timeframe from receipt of the customer's application for a service. Refer to Table 5.3 for the CSG timeframe for remote areas.

In the Desert area, 401 out of a total 976 services in operation (SIOs) were CSG-eligible. In that area, the majority of CSG-eligible SIOs were repaired and a high proportion of CSG-eligible SIOs were installed within CSG timeframes. Telstra reported that CSG restoration performance in the Desert area was affected by the low number of faults reported, which makes it difficult to achieve efficiencies through repairing faults in similar locations.

In West Kimberley, 415 out of a total 755 SIOs were CSG-eligible. In that area, a high proportion of CSG-eligible SIOs were repaired and a high proportion of CSG-eligible SIOs were installed within CSG timeframes.

The low monthly incidences of fault restorations and activations in the snapshot study areas during 2005–06 prevent evaluation of CSG performance by comparison with performance in remote areas nationally. Further, Telstra's CSG performance has been achieved in areas where there are significant challenges in terms of geographic distances involved and environmental factors. The Desert area in particular is vast in size and includes some communities which are accessible only by air or unsealed road.

Communities in the Desert and West Kimberley areas did not raise concerns about timeframes for connection and repair. Rather, Desert community representatives noted that access to telecommunications services remains the primary issue for people living in Indigenous communities.

Payphone performance in remote Indigenous communities

Payphones fulfil a lifeline service in remote Indigenous communities and are often the primary or sole telecommunications service for many communities. Payphone faults have a more detrimental impact on remote Indigenous communities than other remote telecommunications users, who have access to other services.

Telstra reported that during 2005–06, 68 per cent of all faults on Telstra-operated payphones in remote Indigenous communities were repaired within the timeframe of three working days of being notified of the fault, as specified in its Standard Marketing Plan.

Table 8.4 is a frequency distribution of the time taken to repair Telstra-operated payphones in remote Indigenous communities in comparison with the time taken to repair Telstra payphones in remote areas. It shows that during 2005–06, Telstra’s payphone repair performance in Indigenous communities was comparable to its payphone fault repair performance in remote areas as a whole.

Table 8.4: Frequency distribution – time taken to repair Telstra payphones, 2005–06

	Remote areas (%)	Remote Indigenous communities (%)
Within specified timeframe (before the end of three full working days)	72	68
– plus one working day	8	9
– plus two working days	4	4
– plus three working days	3	4
– plus four working days	3	3
– plus five working days	2	2
– plus six or more working days	9	10

Source: Telstra

Field visits revealed that payphones in some communities in the Desert area are used heavily and can be affected by breakages, which may be external or due to coins jamming. Community representatives reported that Telstra technicians repaired faults monthly.

ACMA observes that Telstra’s payphone performance is achieved in communities where there are often physical distances and environmental factors involved in maintaining services. For instance, communities in the Ngaanyatjarra Lands are approximately 1,000 kilometres from Alice Springs and are only accessible by air or unsealed road, sections of which are subject to wet weather closure.

Further information about services in remote Indigenous communities

www.acma.gov.au/CommsReport

Appendix

8.1 Telecommunications services in remote Indigenous communities

Data updates

- ABS, *Community Housing and Infrastructure Needs Survey (Housing and Infrastructure in Aboriginal and Torres Strait Islanders)* (last released for 2001 in 2002, anticipated future release in early 2007)
- ACMA, *Communications Services Availability in Australia 2005–06*

Documents

- ACA *Review of Payphone Policy 2003*, March 2004
- DCITA discussion paper *Backing Indigenous Ability: Delivering a comprehensive telecommunications package in Indigenous communities*, March 2006
- DCITA discussion paper *Review of the Indigenous Broadcasting Programme*, April 2006
- DCITA *Review of the operation of the Universal Service Obligation and Customer Service Guarantee*, 7 April 2004
- DCITA TAPRIC programs information (including link to *Community Phones Program* fact sheet)

Organisations

Australian Indigenous Communication Association (www.aica.asn.au)
 Central Australia Aboriginal Media Association (www.caama.com.au)
 Centre for Appropriate Technology Inc (www.icat.org.au)
 Community Broadcasting Foundation Ltd (www.cbf.com.au)
 Indigenous Community Television (www.ictv.net.au)
 National Indigenous Council (www.oipc.gov.au)
 National Indigenous Radio Service (www.nirs.com.au)
 Ngaanyatjarra Media (www.waru.org/organisations/ngmedia)
 Office of Indigenous Policy Coordination (www.oipc.gov.au)
 PY Media (www.waru.org)
 Warlpiri Media Association (www.warlpri.com.au)

9 Broadcasting – reflecting Australian identity and cultural diversity

Overview

This chapter provides information about how the broadcasting industry performs against regulatory measures that are aimed at developing and reflecting a sense of Australian identity, character and cultural diversity.

Commercial television services are required to provide minimum levels of Australian programs, including adult and children's drama, and documentaries. There are also Australian content requirements for subscription television (pay TV) drama services.

Codes of practice for commercial and community broadcasting services commit these services to providing a minimum level of Australian music, and, in the case of community broadcasting, to supporting and developing choice and diversity through their programming, including local and Australian arts, music and culture.

Licence conditions imposed by ACMA require provision of local information on some regional commercial television services. Other requirements provide for the continued availability of specified events of national significance, particularly sports, on free-to-air television services.

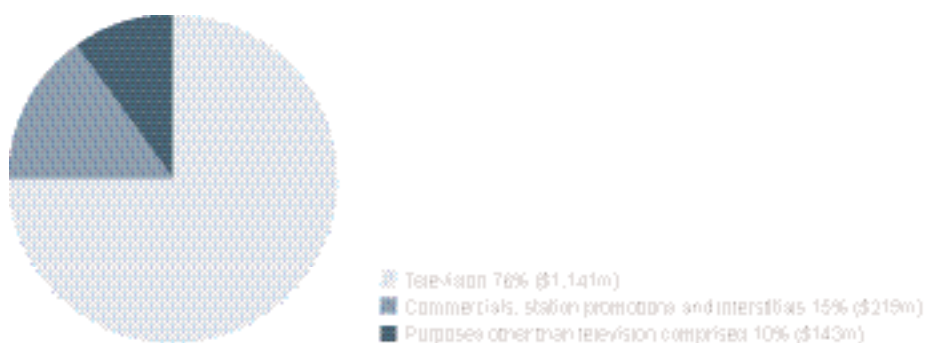


Australian content on television

The *Broadcasting Services (Australian Content Standard) 2005* requires commercial television to broadcast a minimum level of Australian programming, and minimum amounts of first release Australian drama programs, children's programs and documentaries. The primary objective of the requirement is to develop and reflect a sense of Australian identity, character and cultural diversity, with development of the local production industry a subsidiary objective.

The most recent ABS figures on production activity undertaken by commercial free-to-air, national and pay TV, and film and video production businesses state that total cost of Australian productions in 2002–03 was \$1,503 million, with genre breakdown illustrated in Figure 9.1.

Figure 9.1: Australian television production expenditure, 2002–03



Source: ABS, *Australian television production expenditure 2002–03*

Commercial television licensees spent \$1,163.4 million on total programming for 2004–05 (latest data available), an increase of 15.9 per cent over the previous year. Of total programming expenditure, \$812.8 million was spent on Australian programs, which represents 70 per cent of total expenditure and an increase of 20.5 per cent from 2003–04.

Table 9.1: Total expenditure on Australian programming by program category, 2004–05

Program expenditure	2004–05
Drama	113.8
Children's programs	21.5
News and current affairs	167.3
Documentaries	9.2
Sport	255.8
Light entertainment – variety	97.8
Light entertainment – other	135.0
Other programming	12.5
Total	812.8

Source: ACMA, *Broadcasting Financial Results 2004–05*

Table 9.2: Total programming expenditure - Australian and overseas programs, 2004–05

Program origin	2004–05
Total Australian	812.8
Total overseas	350.6
Total	1,163.4

Source: ACMA, *Broadcasting Financial Results 2004–05*

The types of programs required under the Australian Content Standard are typically more expensive than comparable overseas programs and would be vulnerable to replacement by cheaper imports without regulatory intervention. The government also encourages the development and production of Australian programs and audio-visual material with direct funding to the Film Finance Corporation, the Australian Film, Radio and Television School and the Australian Film Commission. The two national broadcasters, the ABC and SBS, are both funded directly by government under their own enabling legislation to provide culturally diverse programming.

Overall levels of Australian content

The Australian Content Standard requires that Australian programs—which are produced under the creative control of Australians—must comprise at least 55 per cent of all Australian programming between 6.00 am and midnight, including first release and repeat programs.

For the 2005 calendar year, all metropolitan commercial network licensees exceeded the minimum 55 per cent Australian transmission quota:

- Nine Network licensees transmitted more than 64 per cent in each of their three metropolitan markets of Brisbane, Melbourne and Sydney;
- Network Ten licensees transmitted more than 58 per cent in each of their markets in the five mainland state capital cities; and
- Seven Network licensees transmitted more than 55 per cent in each of their markets in the five mainland state capital cities.

Australian drama

The Australian content standard provides for a drama point score to be met in any year, for first release Australian drama programs, including series, serials, mini-series, telemovies and feature films. The calculation of an annual and a three-year point score system for different program formats creates incentives to produce and broadcast the more expensive drama programs.

The minimum annual first release Australian drama program requirement is 250 points. All national free-to-air commercial networks met the quota during 2005:

- Seven Network licensees scored at least 430 points in each of their markets in the five mainland state capital cities;
- Network Ten licensees scored at least 285 points in each of their markets in the five mainland state capital cities; and
- Nine Network licensees scored between 275 and 282 points in their markets in Brisbane, Melbourne and Sydney.

The minimum point requirement for first release Australian drama programs over a three-year period is 830. All national free-to-air commercial networks met this quota during the three-year period (calendar years) 2002 to 2004:

- Seven Network licensees substantially exceeded the requirement, scoring more than 1,130 points in each of their markets in the five mainland state capital cities;
- Nine Network licensees scored more than 831 points in each of their markets in Brisbane, Melbourne and Sydney; and
- Network Ten licensees scored between 878 and 881 points in each of their markets in the five mainland state capital cities.

The industry spent \$113.8 million on Australian drama in 2004–05, a slight decrease of 1.4 per cent from 2003–04. There was also a decrease in expenditure on Australian drama of 11.77 per cent in 2003–04 compared with 2002–03. Expenditure on overseas programming increased by six per cent over the reporting period. Table 9.3 provides a breakdown of total expenditure on programming by commercial television stations over the five financial years from 2000–01 to 2004–05.

Table 9.3: Expenditure on adult drama by commercial television licensees, 2000–01 to 2004–05

Type of programming	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
Australian drama	105	114.7	130.8	115.4	113.8	–1.4

Source: ACMA

Australian documentaries

The Australian Content Standard requires national commercial television broadcasters to broadcast at least 20 hours of first release Australian documentary programs per year.

All commercial television stations met the minimum first release Australian documentary standards in 2005, with:

- the Seven Network recording an average of 50.57 hours across its markets in the five mainland state capital cities (up from the 2004 annual national average of 27.95 hours for all licensees);
- Nine Network recording 20 hours in each of its markets in Brisbane, Melbourne and Sydney; and
- Network Ten recording 20 hours in each of its markets in the five mainland state capital cities.

In 2004–05, the industry spent \$9.2 million on Australian documentary programs, a significant increase of 309.1 per cent from 2003–04. This contrasts with the reported 50 per cent decrease in expenditure on Australian documentary programs in 2003–04 compared with 2002–03. Commercial television licensees report on the level of expenditure on Australian documentary programs by financial year, whereas data regarding the number of hours of Australian documentary programs broadcast is provided by calendar year.

Table 9.4: Expenditure on documentaries by commercial television licensees, 2000–01 to 2004–05

Type of programming	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
Documentary	3.4	2.9	4.4	2.2	9.2	309.1

Source: ACMA

Australian advertising

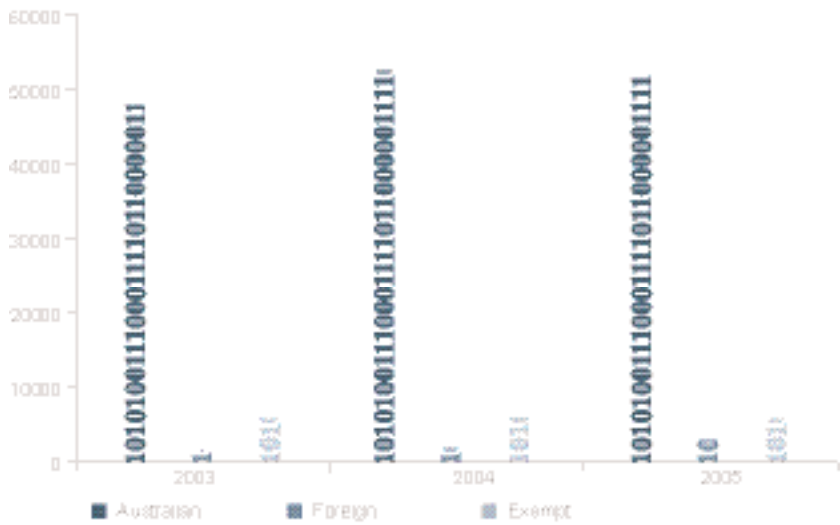
The *Television Program Standard 23 – Australian Content in Advertising* requires commercial television licensees to have Australian-produced advertisements occupying at least 80 per cent of advertising time between 6.00 am and midnight. Exemptions apply to imported cinema films, videos, recordings, live appearances by overseas entertainers and paid community service announcements.

Compliance with the standard is reported by ACMA using data provided by Commercials Advice Pty Ltd (CAD), which is wholly owned by Free TV Australia. ACMA uses CAD classification data to monitor trends in Australian and foreign content in advertising.

The three top product categories for Australian advertisements classified in 2005 were for the retail, entertainment (including restaurants, live shows and music) and motor vehicle industries. The three top product categories for foreign advertisements classified in 2005 were for:

- communications and business (including mobile phone content providers and computer companies);
- motor vehicles; and
- retail.

Figure 9.2: Australian and foreign advertising content, 2003 to 2005



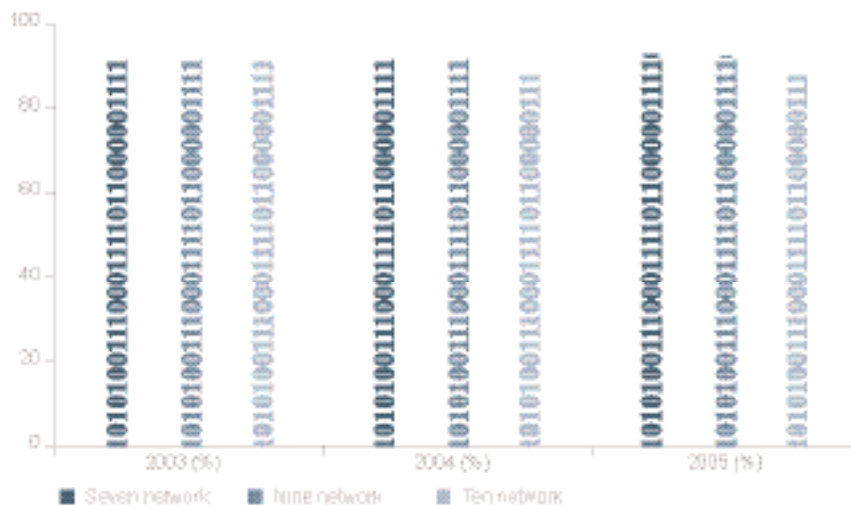
Source: ACMA

As Figure 9.3 shows, all stations broadcast more than the required 80 per cent of Australian advertising in 2005, with average national percentages per network of:

- 92.58 per cent for the Seven Network for its markets in the five mainland state capital cities;
- 92.35 per cent for the Nine Network for its markets in Brisbane; Melbourne and Sydney; and
- 87.49 per cent for the Ten Network for its markets in the five mainland state capital cities.

Foreign advertising has averaged well under the allowable 20 per cent for each year in the period from 1995 to 2005.

Figure 9.3: Percentage of Australian advertising broadcast, 2005



Source: ACMA

Australian drama expenditure by subscription television

Pay TV drama services are required to spend at least 10 per cent of their total program expenditure on new Australian or New Zealand drama programs. This requirement is designed to stimulate production of Australian drama programs; promote the development of the Australian production industry; provide cultural production employment opportunities; and develop new cultural product for export.

At 30 June 2006, Australians were able to access 16 different drama program streams in multiple forms (analog, digital and +2 timeshift) from pay TV services. Expenditure reported through the scheme is directed to short films, telemovies, feature films (including *Footy Legends*, *The Proposition*, *The Silence* and *The Undead*) and drama series (such as *Love My Way*, *McLeod's Daughters* and *Blue Water High*).

Pay TV licensees and channel providers report their expenditure on Australian and/or New Zealand drama programs to ACMA by the end of August each year. Since 1999–2000, when the scheme commenced, all participants have complied with the expenditure requirements. In the 2004–05 financial year, \$15.9 million was spent on local drama programs. See Appendix 9.1 for pay TV Australian drama expenditure data.

Since the introduction of the scheme, subscription television broadcasters have met their new eligible drama expenditure requirements. Since the 2001–02 financial year, the expenditure on new Australian drama programs has been declining. An increasing percentage of the obligation is being acquitted in the following year. While this is allowable under the scheme, it is a trend that is of concern to some industry observers.

Children's programs on commercial television

The Children's Television Standards 2005 (CTS) are designed to provide access for children aged less than 14 years of age to quality television programs made specifically for them. The CTS regulate the timing and scheduling of children's programs and content of adjacent programming. In conjunction with the Australian Content Standard, the CTS also provide children with television programs that reflect their cultural experience.

Quotas for children's television programs

The CTS provide for an annual children's program quota of 390 hours comprising:

- 260 hours of children's (C) programs; and
- 130 hours of children's preschool (P) programs.

The Australian Content Standard sets out additional Australian and first release requirements.

Expenditure on children's programs

Commercial television licensees spent \$21.5 million on children's programming in the financial year to 30 June 2005, an increase of 80.7 per cent from the previous reporting period. Of the total expenditure on children's programming during 2004–05, the majority was spent on children's drama.

Expenditure on children's drama increased by 43.8 per cent between 2003–04 and 2004–05, and other children's programming increased by 127.9 per cent. Table 9.5 below provides a breakdown of expenditure by television licensees on children's programming.

Table 9.5: Expenditure on children's programming by commercial television licensees, 2000–01 to 2004–05

	2000–01 \$m	2001–02 \$m	2002–03 \$m	2003–04 \$m	2004–05 \$m	2004–05 % change
Children's drama	9.5	13.5	15.1	9.3	13.4	43.8%
Children's other	8	4.2	3.6	3.6	8.1	127.9%
Total	17.5	17.7	18.7	11.9	21.5	80.7%

Source: ACMA

Compliance with the Children's Television Standards

In 2005, there was one incident of reported non-compliance with the CTS. QTQ Brisbane failed to comply with the CTS in two regards, when a P program was displaced in December 2005. This resulted in two breaches on the basis that QTQ:

- fell short of the annual quota of 130 hours of P programs by half an hour; and
- did not meet the requirement to broadcast 30 minutes of P programs each weekday.

ACMA accepted an undertaking from the licensee to broadcast an additional 30 minutes of P programs for the year during 2006 to make up for the shortfall.

Each of the other networks met the annual sub-quotas for programs in 2005. See Appendix 9.2 for broadcast data for first release Australian children's drama by licensee from 2003 to 2005.

Children's Television Standards review

In December 2005, ACMA announced that the CTS would be reviewed to ensure their continued relevance and effectiveness in a changed media and communications environment.

Local information on regional television

The *Broadcasting Services (Additional Television Licence Condition) Notice 7 April 2003*, which came into effect on 1 February 2004, requires regional television licensees in the regional New South Wales, Queensland and Victoria markets to broadcast a minimum amount of programs about matters of local significance.

Locally significant material can be about people, organisations, events or issues of particular interest to people in the area, such as programs about people who grew up in the area or events that impact on the local community.

Under the quota, points accrue on the basis of two points per minute for local news and one point per minute for most other types of local content. Each specified local area must meet a minimum of 720 points per six-week period and a minimum requirement of 90 points per week.

Periodic reporting by licensees under the licence condition and a preliminary evaluation undertaken in 2005 indicate that the licensees have met minimum quotas for material of local significance. This has been subsequently confirmed by an audit that ACMA instigated.

Australian music on commercial and community radio

The Broadcasting Services Act does not require radio broadcasters to provide minimum content levels of Australian music. However, the codes of practice for both commercial and community radio broadcasters contain requirements for the broadcasting of Australian music content.

Commercial radio

The *Commercial Radio Australia Codes of Practice and Guidelines* set out Australian music content quotas for different commercial radio station formats. The quotas have been determined on the basis of the availability of Australian music to suit the different formats.

The requirements of code 4.3 are shown in Table 9.6.

Table 9.6: Commercial Radio Australia Codes of Practice and Guidelines – Australian music content requirements

Category	Format of service	Applicable proportion
A	Mainstream rock Album oriented rock Contemporary hits Top 40 Alternative	Not less than 25%
B	Hot/mainstream Adult contemporary Country Classic rock	Not less than 20%
C	Soft adult contemporary Hits and memories Gold – encompassing classic hits News talk/sports talk	Not less than 15%
D	Oldies Easy listening Easy gold Country gold	Not less than 10%
E	Nostalgia Jazz NAC (smooth jazz)	Not less than 5%

Community radio

The Community Broadcasting Association of Australia's (CBAA) *Community Radio Broadcasting Code of Practice* contains an Australian music content component that requires community radio broadcasters to have regard to the make-up of the community they have been licensed to serve in selecting Australian musical items for broadcast on their service.

The code requires broadcasters to ensure that a proportion of the total number of musical items broadcast over one month should consist of:

- not less than 25 per cent of Australian music items for all community broadcasting licensees except ethnic and classical stations; and
- not less than 10 per cent of Australian music items for ethnic and classical stations.

Figures collected by CBAA indicate that during 2003–04, community radio broadcast an average of 35 per cent Australian music overall.¹ Further:

Australian music made up nearly half of all music played by indigenous stations and nearly 40% of the music played on youth stations. Community radio services in rural areas played an average of 48 hours of Australian music a week (39% of all music). Metropolitan and regional stations played around 33% Australian music.¹

Access to sports and special events programs

The Minister is empowered under the Broadcasting Services Act to make a formal notice, known as the anti-siphoning list, listing events that should be available on free-to-air television for viewing by the general public. The objective of the list is to prevent events of national significance, such as popular national and international sport, from being siphoned off by pay TV to the detriment of free-to-air viewers.

At 30 June 2006, 30 event categories were on the anti-siphoning list. Refer to Appendix 9.3 for the calendar of events for 2006.

¹ *Community Broadcasting Database, 2003–04*

Further information about broadcasting

www.acma.gov.au/CommsReport

Appendixes

- 9.1 Expenditure on Australian drama programs by the pay TV sector
- 9.2 First release Australian children's drama broadcast data
- 9.3 Events on the anti-siphoning list

Data updates

- Advertising Standards Bureau complaints statistics
- *Broadcasting Financial Results 2004–05* (may be purchased from ACMA)
- ACMA, Australian Content Standard compliance results (including the Children's Television Standards) (compiled annually, last release for 2005 in May 2006)
- Australian Film Commission, *Get the Picture: Key statistics on Australia's cinema, video television and interactive media markets*

Documents

- ACMA, Broadcasting content requirements
- ACMA, *Digital Media in Australian Homes*, 2005
- Australian Film Commission, *Australia's Audiovisual Markets*, 2005
- *Broadcasting Services (Australian Content) Standard 2005*
- *Children's Television Standards 2005*
- *Commercial Radio Australia Codes of Practice and Guidelines*, 23 September 2004
- DCITA, *Anti-siphoning rules for Pay TV and Sport*
- *Television Program Standard 23—Australian Content in Advertising*

Organisations

Association of Christian Broadcasters Inc (www.acb.org.au)

Australian Broadcasting Corporation (www.abc.org.au)

Australian Film Commission (www.afc.gov.au)

Advertising Standards Bureau (www.advertisingstandardsbureau.com.au)

Australian Subscription Television and Radio Association (www.astra.org.au)

Commercial Radio Australia (www.commercialradio.com.au)

Community Broadcasting Association of Australia (www.cbaa.org.au)

Film Finance Corporation (www.ffc.gov.au)

Free TV Australia (www.freetvaust.com.au)

Screen Producers' Association of Australia (www.spaa.org.au)

Special Broadcasting Service (www.sbs.com.au)

10 Economic benefits resulting from changes in telecommunications services

Overview

The opening up of Australia's telecommunications services sector to competition in 1997 accelerated productivity improvements in the sector, benefiting the end-users of telecommunications services.

ACMA commissioned economic consultants ACIL Tasman, in association with telecommunications specialists Gibson Quai AAS, to examine the benefits flowing from changes in the telecommunications sector in 2005–06.



Reforms to Australia's telecommunications sector, implemented through the *Telecommunications Act 1997*, have contributed to improvements in service quality, new types of services, faster introduction of new technologies, improved geographical coverage of services and price reductions. These attributes increase business productivity in industries which use telecommunications services and benefit residential consumers through time savings from more advanced mobile phone and internet services and broader internet consumer applications. Other factors affecting the telecommunications market are government subsidies (for example, for the extension of broadband) and regulatory policy.

The consumer and business benefits from telecommunications services result from new technologies (which provide new services or lower costs to users) and competition (which speeds the take-up of new technologies and the pace of price reduction), and the interaction between the two.

ACIL Tasman estimated the benefits flowing from changes in the telecommunications sector. They estimated that:

- during 2005–06, the additional production in the Australian economy flowing from effects of the 1997 telecommunications reforms and subsequent developments, over and above those already embedded in the economy at the end of 2004–05, was worth around \$2.5 billion;
- by adding the effects of the reforms and subsequent market developments already embedded in the economy at the end of 2004–05, it is estimated that production in 2005–06 was around \$15.2 billion higher than it would have been had the reforms and subsequent developments not occurred; and
- the economic welfare benefits flowing to consumers and small businesses in 2005–06 are approximated by changes to total household consumption on goods and services and business operating surpluses, which were around \$1.9 billion and over \$440 million respectively. These flow from the additional production in an economy with price competition and innovation in the telecommunications sector.

Other economic effects estimated to have occurred in the Australian economy during 2005–06 include the creation of approximately 17,550 additional jobs and over \$660 million of additional investment.

The underlying dynamics that led to these benefits include:

- direct price and service benefits plus the indirect benefits that consumers gain in dealing with others (for example, airlines and banks);
- households gain from faster internet connections and a broader range of online applications from higher bandwidth technology; and
- the reduction in the cost to consumers and businesses of using the internet and most fixed-line and mobile voice services.

Developments in the telecommunications sector

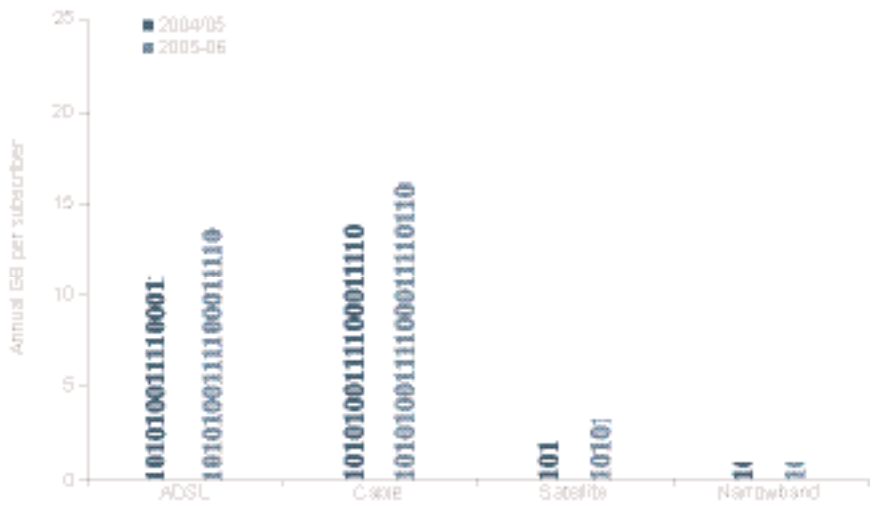
All data received from the telecommunications service providers are based on the year to 31 March 2006, except as noted. As such, it may differ from other data collected and used by ACMA in this or other publications.

Internet

The average consumption per subscriber of data across Australia’s internet networks continued its sharp rise during 2005–06. Combined with the strong growth in the number of ADSL subscribers (often at the expense of narrowband services), large increases in individuals’ data consumption drove overall data volumes rapidly in the 12 months to 31 March 2006.¹ Total broadband data volumes increased by 113 per cent, but total narrowband data volumes declined by 7.1 per cent. The total expansion in internet data volumes during 2005–06 was 99 per cent.

Figure 10.1 shows the significant increases in data volumes downloaded per subscriber in 2005–06, especially ADSL (18.8 GB) and cable (22.2 GB) subscribers. Narrowband subscribers consumed 1.2 GB, the same consumption rate as 2004–05.

Figure 10.1: Volume of data downloaded by internet technology per subscriber, 2004–05 and 2005–06



Source: Telecommunications carriers’ responses to ACMA’s telecommunications data request for 2005–06

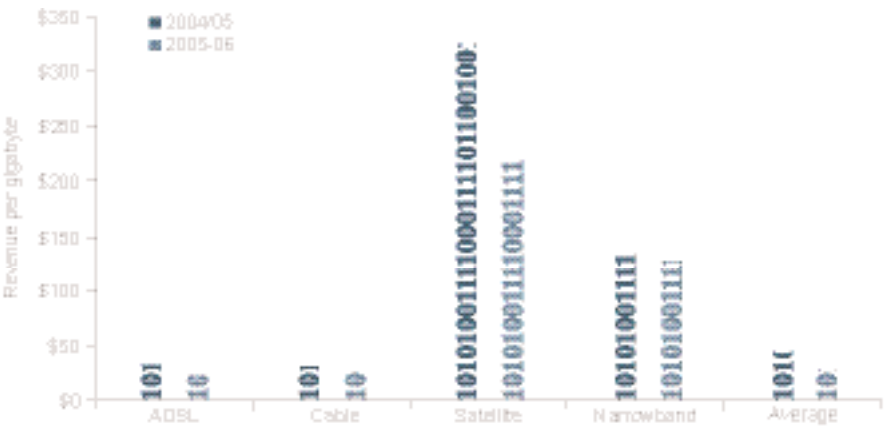
¹ This estimate is based on data received from internet service providers in response to ACMA’s data request. It does not cover all Australian internet providers, nor does it cover wireless broadband, ISDN or optical fibre networks.

Apart from using more data intensive online applications, the significant increases in data download volumes were driven by price reductions in 2005–06 for internet services, especially broadband services, of:

- 29.7 per cent per GB for ADSL;
- 17.2 per cent per GB for cable;
- 32.7 per cent per GB for satellite broadband;
- 4.7 per cent per GB for narrowband; and
- 33.2 per cent for all internet subscribers.

The decline in revenue per GB and hence the increased affordability is shown in Figure 10.2. In 2005–06, this was accentuated by the shift towards lower cost (per GB) internet technologies—ADSL and cable.

Figure 10.2: Average revenue per GB by internet technology, 2004–05 and 2005–06



Source: Telecommunications carriers’ responses to ACMA’s telecommunications data request for 2005–06

Subscriber growth in terrestrial broadband services can also be attributed to increasing broadband availability, allowing more of the population to benefit from the falling broadband prices. As depicted in Table 10.1, national terrestrial broadband availability is estimated to have increased by 3.4 per cent in 2005–06 (excluding wireless broadband). New South Wales and Victorian residents continue to enjoy the highest availability, while Tasmanian and Queensland residents had the largest increases in availability during the financial year.

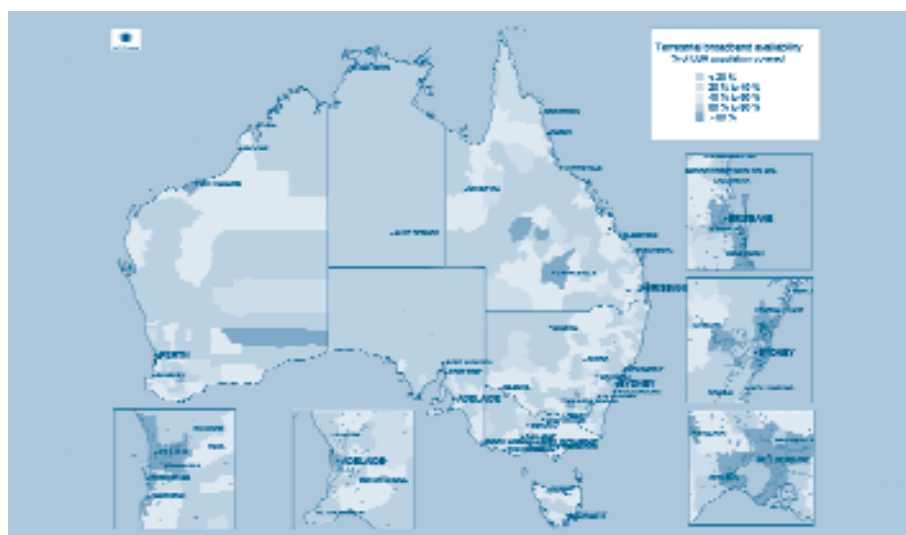
Table 10.1: Terrestrial broadband availability per state and percentage change, 2004–05 and 2005–06

	2004–05 availability	2005–06 availability	% change
New South Wales	80.7%	82.4%	1.7%
Victoria	80.9%	83.2%	2.3%
Queensland	69.3%	72.6%	3.3%
South Australia	63.2%	66.1%	2.9%
Western Australia	70.7%	72.6%	1.9%
Tasmania	58.6%	66.6%	8.0%
Northern Territory	49.8%	50.8%	1.0%
Australia	75.4%	77.8%	2.4%

Note: Availability refers to the proportion of the population that can receive terrestrial broadband. In this chapter, terrestrial broadband refers to ADSL and cable broadband technologies. All availability growth in 2005–06 is due to expanding ADSL networks. The terrestrial broadband coverage estimates used in the ACIL Tasman modelling are based on coverage maps from publicly available information for the year to 31 March 2006.

The deployment of terrestrial broadband availability at June 2006 is shown in Figure 10.3. Metropolitan areas have higher levels of access to terrestrial broadband services than rural regions, largely explained by differences in population density and business location. Regional areas, particularly towns with populations of 500 to 1,000 people, gained greatest benefit through increased ADSL broadband availability during the last financial year.

Figure 10.3: Terrestrial broadband availability by local government area, June 2006



Note: Terrestrial broadband refers to ADSL and cable broadband technology. It does not include wireless broadband.

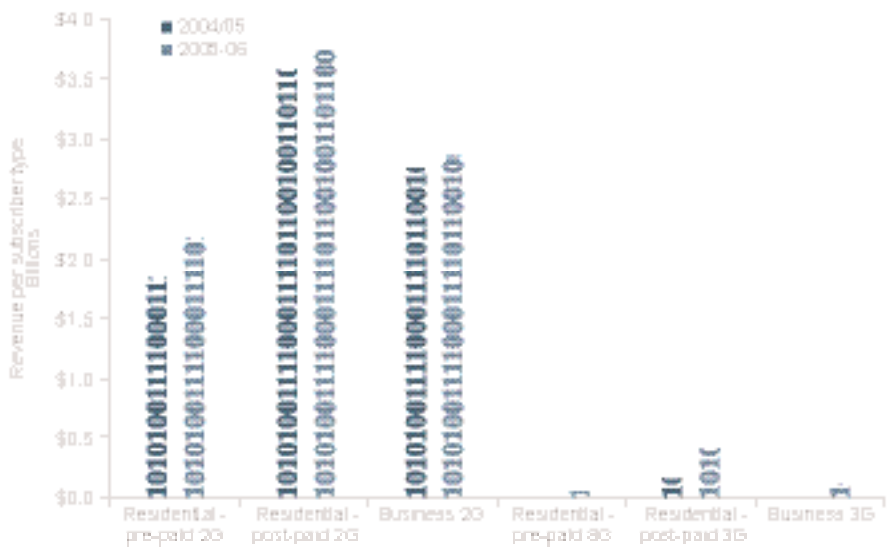
Source: Map/info/Exchange info, Telstra wholesale broadband coverage statistics. Base map data from CData 2001[©], PMSA Australia Limited 2002.

Mobile phone services

The mobile phone market in 2005–06 saw the continued emergence and significant subscriber number growth of 3G mobile technology. The costs of mobile calls and SMS continued to fall for pre and post-paid residential and business subscribers during 2005–06. Customers’ annual bills for 2005–06 only increased by 1.2 per cent despite call minutes and SMS volumes increasing by 29.3 and 36.6 per cent respectively, which increased the value for money for customers using Australia’s mobile networks in 2005–06.

Australia’s mobile phone market continued to expand in 2005–06, driven by lower per minute call charges being offered to virtually all customer types. Total retail mobile revenue increased by 11 per cent or \$925 million to \$9.3 billion in 2005–06². Despite being significantly smaller in terms of market size, 3G revenue growth during 2005–06 was significantly higher (127 per cent) than the growth generated by 2G networks (7.5 per cent). Figure 10.4 shows the relative sizes and overall revenue growth generated by Australia’s 2G networks and 3G networks in 2005–06.

Figure 10.4: Revenue by subscriber type for Australia’s 2G and 3G networks, 2004–05 and 2005–06



Source: Telecommunications carriers’ responses to ACMA’s telecommunications data request for 2005–06

The number of mobile retail subscribers increased to 19.5 million or approximately 95 per cent of Australia’s population by 31 March 2006³. Pre-paid residential customer numbers grew by 15.5 per cent, post-paid residential customer numbers by 2.2 per cent and business customer numbers by 8.6 per cent. There were 9.5 million pre-paid residential customers, 5.8 million post-paid residential customers and 4.2 million business customers by March 2006. There were approximately 850,000 3G subscribers in Australia at 31 March 2006.

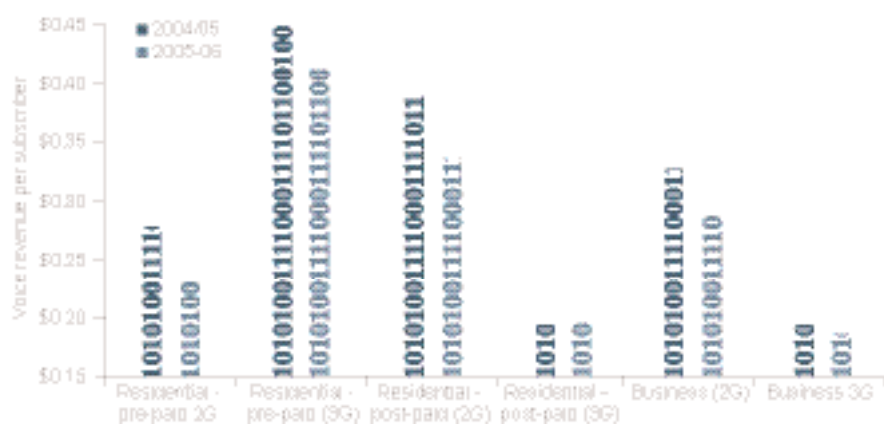
² These figures are calculated from the mobile network providers’ responses to ACMA’s data request for 2005–06.
³ This figure is calculated on the basis of the number of services in operation, and therefore differs from the data in Chapter 2, which is the percentage of the population that owns or uses a mobile phone.

Total call minutes increased by 29.3 per cent and the average cost per call minute decreased by 13.4 per cent in 2005–06. The cost per minute for:

- pre-paid residential subscribers decreased by 15.7 per cent;
- post-paid residential subscribers decreased by 15.5 per cent; and
- business subscribers decreased by 12.9 per cent.

The continued take-up of capped pricing plans appears to have been a significant influence on the continuing strong growth of mobile voice services. The increase in pre-paid residential and business customers appears to be influenced by more aggressive pricing strategies, especially in the business sector. Figure 10.5 shows the reductions in costs per call minute across all customer categories for 2G and 3G mobile services, except 3G post-paid residential customers during 2005–06.

Figure 10.5: Average revenue per call minute, 2004–05 and 2005–06



Source: Telecommunications carriers' responses to ACMA's telecommunications data request for 2005–06

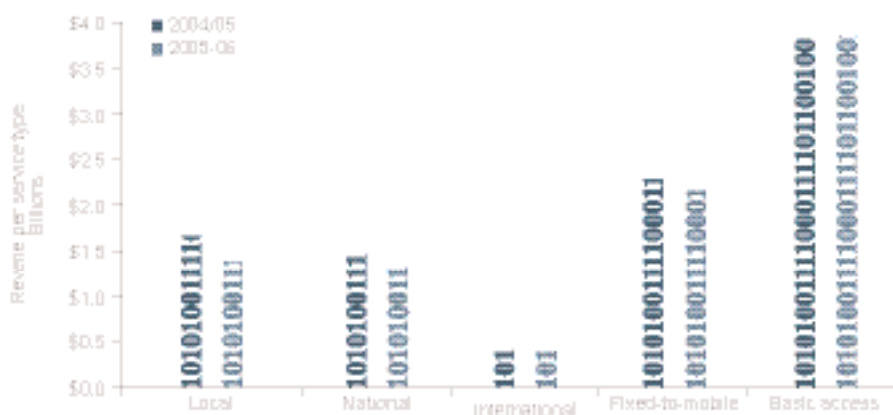
On average, 2G subscribers received a 14.5 per cent reduction in the level of calling costs, but average per minute calling costs for 3G subscribers increased slightly by virtue of the largest and most expensive customer group (post-paid residential) increasing slightly.

Fixed-line developments

The number of fixed-line subscribers, call volumes, and overall call and access revenue continued to decline in 2005–06.

There was a 3.5 per cent decrease in total revenue from fixed lines, significantly smaller than the 14 per cent fall in total revenue for 2004–05. Service providers' revenue from access charges continue to expand, as increased access charges offset the declining number of subscribers. The changes in revenue for fixed-line services are shown in Figure 10.6.

Figure 10.6: Fixed-line revenue by service type, 2004–05 and 2005–06



Source: Telecommunications carriers' responses to ACMA's telecommunications data request for 2005–06

The greatest migration of consumers and use appears to be to mobile services, although the continuing high growth of broadband internet suggests that voice over internet protocol (VoIP), email, internet messaging and chat rooms are also being used.

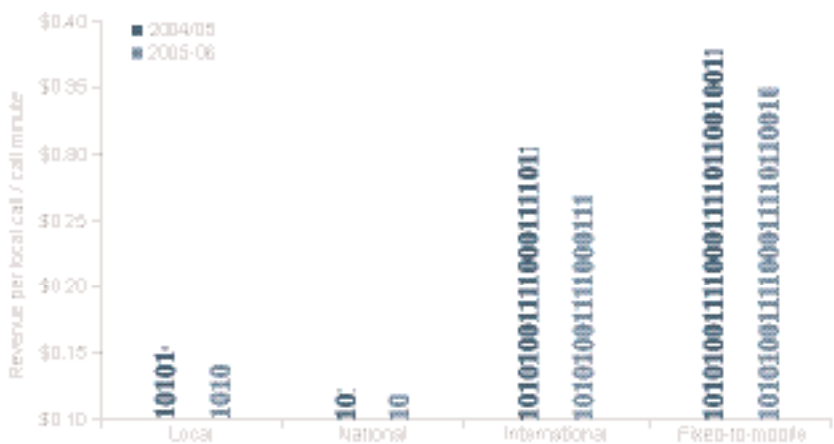
There have been cost reductions for all service types of the fixed-line voice market, except for basic access (line rental), due to a combination of downward pressure from access price regulation and price competition. Fixed-line subscribers paid 5.5 per cent more for basic access (connection fees) but spent 5.4 per cent less time on the telephone during 2005–06.

The average cost of local calls and time-based call charges fell during 2005–06 by the following amounts:

- local call costs by 8.1 per cent to 14.1 cents per call;
- national call costs by 3.7 per cent to 11.8 cents per call minute;
- international call costs by 10.9 per cent to 27.2 cents per call minute; and
- fixed-to-mobile call costs by 7.5 per cent to 35 cents per call minute.

The significant decline in call costs for fixed-line services during 2005–06 is evident in Figure 10.7.

Figure 10.7: Fixed line revenue per local call and long distance, international and fixed-to-mobile call minute, 2004–05 and 2005–06



Source: Telecommunications carriers’ responses to ACMA’s telecommunications data request for 2005–06

The number of local calls decreased by 9.6 per cent in 2005–06, while the number of national call minutes declined by 6.8 per cent. International call minutes increased by 4.2 per cent and fixed-to-mobile call minutes also increased moderately (two per cent) during 2005–06.

Estimating benefits from telecommunications services

Methodology

The analysis for 2005–06 was applied using a computable general equilibrium methodology of the same type as the 2004–05 ACMA *Consumer Benefits Report*, supplemented by detailed regional analysis and extended qualitative and market analysis.

Tasman-Global Telco, a dynamic general equilibrium model, uses a ‘technology bundle’ to represent and simulate the developments in the telecommunications sector during 2005–06 in great detail. The model accounts for all sectors of the economy and captures both direct and indirect effects (for example, the effect of telecommunications changes on industries that in turn service residential consumers).

The additional production in the Australian economy flowing from effects from the 1997 telecommunications reforms during 2005–06, over and above those already embedded in the economy at the end of 2004–05, was worth around \$2.5 billion. By adding the effects of the reforms and subsequent market developments already embedded in the economy at the end of 2004–05, it is estimated that production in 2005–06 was around \$15.2 billion higher than it would have been had the reforms and subsequent developments not taken place.

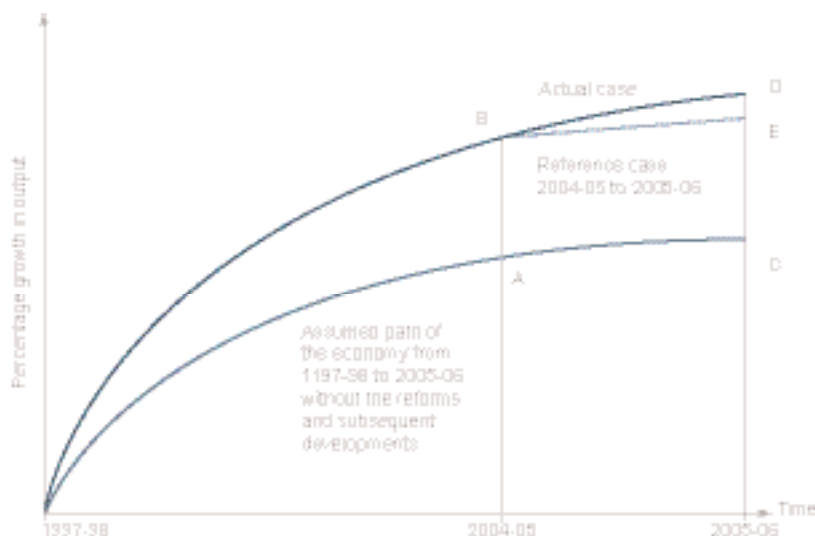
ACIL Tasman estimated the benefits to consumers and businesses by assessing changes to the following five broad telecommunications service types:

- local calls (local calls from fixed-line and mobile services);
- non-local calls (long distance and international calls from fixed-line and mobile services);
- mobile data (SMS and MMS);
- internet data (narrowband and broadband); and
- other data (comprising fixed network and ISDN data).

The key data sources informing this research are the Australian Bureau of Statistics (ABS), previous ACMA reports and data from telecommunications carriers.

The Tasman-Global Telco modelling compared the actual developments in the telecommunications sector in 2005–06 with the ‘reference case’ in which the 1997 reforms were assumed to have no further effect beyond the end of 2004–05. The reference case moves broadly in line with changes in output observed across the rest of the economy. This estimated the additional effects in the Australian economy flowing from the 1997 telecommunications reforms and subsequent developments during 2005–06 (DE in Figure 10.8), over and above those already embedded in the economy at the end of 2004–05.

Figure 10.8: Actual versus reference case, 1997–98 to 2005–06



The estimated effects of the reforms and subsequent market developments already embedded in the economy at the end of 2004–05 (EC in Figure 10.8)⁴ are added to this to estimate how different the economy may have been at the end of 2005–06, had the 1997 reforms and subsequent developments not taken place (DC in Figure 10.8).

This reference case assumption reflects a balance between the fact that telecommunications is a technology-driven industry, and the fact that prior to 1997 the telecommunications sector had less competition than is typical in the rest of the economy with natural monopoly network elements. A less competitive industry is likely to grow more slowly due to lower pressure for the rollout of new technologies and for price reductions. The assumption of GDP growth similar to the rest of the economy has been adopted. Sensitivity analysis is used to test the sensitivity of the assumption of ubiquitous GDP growth.

Regional analysis

The regional analysis draws on detailed, sub-state data from the carriers. It also uses several different types of spatial data from a range of sources, including detailed databases on demographics, industrial structure, business numbers, employment and telecommunications availability (especially relevant to terrestrial broadband). Much of the regional data aggregation, modelling and analysis in the ACIL Tasman report were performed in a geographical information systems (GIS) environment.

As well as being used for managing data inputs and informing inputs into Tasman-Global Telco, GIS was also used to analyse, disaggregate and display the model output results. Regional analysis mapping techniques, together with two-way interaction with the Tasman-Global Telco modelling, were used to provide a breakdown of benefits for each region by industry.

⁴ EC was assumed to be the same as BA, which is the estimate from last year's report of how different the economy may have been at the end of 2004–05, had the 1997 reforms and subsequent developments not occurred.

Effects on economic welfare

Changes to economic welfare are measured by estimating the benefits that accrue to consumers and businesses.

Consumer benefits

Changes in consumer welfare are measured by changes in consumer surplus, defined as the difference between the value consumers place on a service, or their willingness to pay, minus the price actually paid for the service. This is approximated in the model by changes to real consumption.

The Tasman-Global Telco model estimates that real household consumption increased by 0.37 per cent relative to the reference case in 2005–06, implying consumer benefits of around \$1.9 billion in 2005–06 due to changes in telecommunications services during the year.

The direct consumer benefits from improvements in the telecommunications sector include price reductions, increased use associated in part with price reductions, time savings from faster internet services, improvements in quality and new services. These changes are a result of improved productivity in the telecommunications industry as well as strategic price changes introduced by the major telecommunications providers. The indirect benefits captured by Tasman-Global Telco include households benefiting by purchasing cheaper products from industries that have become more productive as a result of cheaper and more efficient telecommunications services.

Small business benefits

Telecommunications services are essential inputs into the operations of nearly all Australian businesses. To estimate the benefits to businesses, an estimate of the change to producer surplus is calculated. Producer surplus is the difference between the cost of production and the price received for a unit of service. This is approximated in the model by changes to the operating surpluses of firms. Therefore, telecommunications developments leading to cheaper or more efficient telecommunications inputs increase productivity and reduce input costs, thus increasing producer surplus.

The model estimates that gross operating surpluses increased by 0.54 per cent in 2005–06 relative to the reference case, implying net benefits to small businesses of around \$444 million.

Other economic effects

Gross domestic product or output

During 2005–06, the additional production in the Australian economy flowing from effects from the 1997 telecommunications reforms and subsequent developments, over and above those already embedded in the economy at the end of 2004–05, was worth around \$2.5 billion. By adding the effects of the reforms and subsequent market developments already embedded in the economy at the end of 2004–05, it is estimated that production in 2005–06 was around \$15.2 billion higher than it would have been had the reforms and subsequent developments not occurred.

As with all such estimates, these estimates are critically dependent on the assumptions about the ‘reference case’. If, for example, it is assumed that the telecommunications sector would have grown more slowly than the rest of the economy on average, the gap to the actual scenario would be larger, producing a larger estimate of the telecommunications benefits. Conversely, if it is assumed that the telecommunications sector would have grown faster than the remainder of the economy on average, it would result in a lower estimate of telecommunications benefits. As such, all the estimates should be seen as order of magnitude estimates.

The other model assumptions also affect the results. These are set out in the appendixes of the report by ACIL Tasman⁵.

Employment

The impact of telecommunications services on employment growth in 2005–06 is estimated to have increased employment 0.27 per cent relative to the reference case. This is equivalent to the creation of 17,550 extra jobs across the Australian economy in the financial year 2005–06.

Sector results

Nearly all economic sectors in all jurisdictions show increases in output compared with the reference case. The increases are especially pronounced in sectors known to make substantial use of telecommunications (for example, many of the service sectors). Manufacturing industries also perform well as a result of the flow-on or indirect economic effects, especially the electronics industry, reflecting its importance as a supplier of inputs to the communications industry.

⁵ *Consumer benefits resulting from Australia’s telecommunications sector, 2005–06*

Regional analysis

Impacts on states

The estimated benefits from changes in telecommunications services (due to the 1997 liberalisation, technological advance, subsidies and regulatory policy) range between 0.21 per cent (Northern Territory) to 0.36 per cent (New South Wales and Tasmania) in gross state product (GSP) increases during 2005–06. The percentage increases in household consumption, employment and investment are larger compared to GSP changes in each state (with the number varying somewhat by jurisdiction). The numbers shown in Table 10.2 are substantial compared with overall national growth of around three per cent in 2005–06.

Table 10.2: Estimated benefits of telecommunications changes (percentage increases), from 2004–05 to 2005–06

	GSP	Household consumption	Employment	Investment
New South Wales	0.36%	0.42%	0.32%	0.35%
Victoria	0.26%	0.31%	0.24%	0.26%
Queensland	0.25%	0.30%	0.21%	0.24%
South Australia	0.35%	0.43%	0.28%	0.35%
Western Australia	0.31%	0.40%	0.25%	0.30%
Tasmania	0.36%	0.45%	0.28%	0.36%
Northern Territory	0.21%	0.28%	0.18%	0.21%
Australia	0.30%	0.37%	0.27%	0.30%

Source: ACIL Tasman

Table 10.2 shows that states such as New South Wales and South Australia with strong service and manufacturing sectors gain significant benefit from telecommunications changes (as measured by GSP increases). New South Wales and Victorian residents also have the highest terrestrial broadband availability (over 82 per cent), higher than the other states and the national average (78 per cent). During the financial year, Tasmania enjoyed the greatest increase in broadband availability.

The states benefiting less from changes to telecommunications services were generally more reliant on agriculture and mining industries, and had lower terrestrial broadband availability. Despite being relatively high users of telephony services, the Western Australian and Queensland economies only receive moderate benefits as a result of relatively slow increases in broadband availability and the composition of their economies (with substantial mining and agriculture sectors). Northern Territorians benefited least from telecommunications services as a result of lower terrestrial broadband availability.

Impacts on industry

The regional analysis concludes that areas with a predominance of economic activities that are relatively heavy users of telecommunications services—services and manufacturing sectors—received greater benefit from changes in telecommunications services, including price reductions. These are more typically found in metropolitan areas. The opposite applies to areas where less intensive users of telecommunications services dominate—agriculture, fisheries, forestry and coal—industries which the modelling showed to be less sensitive to developments in the telecommunications industry. Typically, these are the rural and regional areas.

Impacts on consumers

During 2005–06, metropolitan areas also had higher terrestrial broadband (most notably ADSL and cable) availability, meaning that a greater proportion of the households and businesses were in a position to benefit from the broadband price reductions that occurred during the period.

However, it was regional areas that benefited more through another change relating to broadband—that of increasing broadband availability. Areas benefiting most from the increase in terrestrial broadband availability typically contained towns with populations of between 500 and 1,000 people. Substitution effects were a feature of the modelling, with increases in broadband coverage being associated with lower narrowband and satellite use.

Figure 10.9 shows the geographic spread of telecommunications-related output increases in 2005–06.

Figure 10.9: Impacts on local government area output from changes in the telecommunications sector, 2005–06



Source: Map/info/Exchange info. Basemap data from CDATA 2001[©]. PSMA Australia Limited 2002.

Areas with high population density tended to have the highest per capita use of fixed voice services. There tended to be a greater dependency on local calls in metropolitan areas and a higher dependency on long distance calls in the least densely populated areas. In a modelling context, this made:

- the metropolitan areas more sensitive to changes in local calls (the number of which fell sharply), while the rural and regional areas were more sensitive to changes in long distance calls (which were found to decline slightly);
- inner metropolitan areas had the highest use of mobile services, followed closely by rural areas (where mobile calls are often an alternative to a long distance call), with outer metropolitan areas having the lowest use of mobile services; and
- metropolitan areas with the highest installed base of broadband internet users benefited proportionally the most from falling broadband prices during the year, while some regional areas benefited through the increasing of availability of broadband.

This chapter is based on a report written for ACMA by ACIL Tasman. Copies of the complete report are available from ACMA by emailing communications.report@acma.gov.au.

EMERGING ENVIRONMENT

'While ACMA must deal with the here and now, it is important that we continually scan the horizon for emerging issues and start developing ranges of responses before issues and opportunities become problems.'

Chris Chapman, ACMA Chair

Convergence in Action- the new ACMA

Speech to the Australian Broadcasting Summit, Sydney 2006

11 Emerging communications issues

Overview

The previous chapters in this report have described the trends in service take-up and use in Australia in 2005–06. Prominent trends include continued growth in the mobile communications subscriber numbers and revenue, an increase in broadband subscribers, and growth in companies offering VoIP with a related migration of VoIP from business to retail markets.

In the main, changes in the communications environment can be addressed in terms of technological developments delivering new products and service applications and changes in market structure. VoIP, 'mobisodes' and multiple-play services are some of the products and services consumers are turning to in 2005–06. The structure of the communications market is also changing, with the established media companies diversifying and expanding their offerings, small and medium-size companies emerging to supply niche products and commercial alliances forming between content creators and carriage service providers.

In this final chapter of the report, ACMA assesses the emerging communications environment in terms of the issues faced by industry, consumers and regulators.



Developments in technology

Rapid technological change in the communications environment is ongoing, with the following developments emerging:

- deployment of packet-based architecture such as the IP multimedia subsystem (IMS) to underpin next generation networks;
- enhancements to mobile phone systems that increase the usable data rate to allow the delivery of data-intensive applications such high resolution video—sometimes referred to as 3.5G or 4G, including ‘broadcast like’ services via mobile phones;
- deployment of low-cost ‘mesh networks’—local area networks where each device acts as a node that can transmit and receive other nodes in the network without the need for a centralised base station; and
- improvements to IT systems and software—such as computer processing power, coding techniques and compression software.

The technological changes, coupled with reductions in broadband pricing, create opportunities for industry to develop and deploy communications services for a wider consumer base. The rapid evolution of communications technology also raises the expectations of consumers that new products and services, and enhanced functionality, will continue to be offered. In response to this demand, industry faces the challenge of using technological developments to create new products and services that are both affordable to consumers and meet a genuine consumer demand.

Issues for industry

While the communications industry continues to grow in terms of overall revenue, it is a highly competitive environment. A fundamental challenge for the communications industry is to develop a business model that will provide a reasonable return on investment and a sustained revenue stream into the future.

Chapter 3 noted that revenue generated through traditional sources of revenue, such as fixed-line telephony and television advertising, continues to plateau and, in some cases, fall. Recognising this, some companies with a focus on traditional media—television, radio and newspapers—have extended their commercial interests into new media. Communications companies are increasingly vertically integrating through the delivery of media services over their communications infrastructure.

Historically, the cost of network infrastructure, such as fixed lines, and radiocommunications transmitters resulted in high barriers to market entry. The cost of modern communications infrastructure, including servers and wireless networking infrastructure, is much lower, which contributes to lower barriers to market entry. New entrants into the communications market face challenges in competing against incumbent companies with established customer bases, sources of content and revenue streams.

Technologies that allow for more efficient transfers of media-rich content have led to the proliferation of free content on the internet. As a result, companies face challenges identifying and developing content that consumers are willing to pay for.

Packet-based networks that have lower operational costs enable development of products that are cheaper substitutes to legacy services. Efforts towards generating revenue from internet traffic, in order to provide returns for investment in next generation networks, can involve managed networks that offer quality of service enhancements, such as prioritised traffic, identity authentication and location and security controls.

Issues for consumers

An ongoing challenge for consumers is to analyse the substantive differences between ostensibly similar products and pricing plans being offered by suppliers. This challenge will be most acutely observed in communities with low levels of media literacy, that is, an understanding of how to use and access communications technology.

Chapter 2 of this report highlights the differences between segments of the consumer population in their understanding and use of communications. Keeping up with new technology will remain a challenge for all consumers, particularly those consumers who fall into the ‘late majority’ and ‘non-adopters’ segments.

Consumers are also used to generally reliable and high-quality telecommunications and broadcasting services. Some consumers will transfer these service quality expectations (such as low latency and low jitter) to IP-based voice and video applications and also expect full public interest features (such as emergency call service access) to continue. Others may make quality of service trade-offs in favour of best-effort, low cost service provision.

With increasing digitalisation and increased computer processing power facilitating the rapid storage, transit and communication of personal information and content, maintaining the privacy of personal information, security of communication and safe access to services and information by children will remain an ongoing challenge for consumers.

These matters are both a challenge for consumers and an issue for regulators. For example, media literacy, and its companion public policy issue of ‘the digital divide’, pose obstacles to realising the full social and economic benefits available from developments in communications technology.

Regulatory issues

Establishing and administering a communications regulatory regime that reflects developments in technology and changes in business models is a challenge being addressed by policy-makers and regulators across the world. For example, jurisdictional issues—the application of national laws to persons located physically outside the jurisdiction—continue to be a source of concern for many governments.

Convergence and globalisation of communications services may increasingly require a multiplicity of responses by government, as already evident in Australia in respect of online content, spam and copyright protection. These include:

- promotion of technological measures—for example, existing activities related to internet content filters, spam filters, to some extent authentication technologies, and Australia-United States Free Trade Agreement provisions relating to technological protection measures for copyright content;
- international cooperation—for example, international police cooperation on child pornography, to a lesser extent recognition of foreign jurisdictions in the Interactive Gambling Act, and international supervision of internet domain names; and
- awareness-raising activities—for example, NetAlert.

Similarly, local content requirements may become more focused on programs and industry assistance than regulatory requirements.

In Australia, the establishment of ACMA is in response to changes in technology and market structure. Future regulatory responses to changing communications challenges must also meet the expectation of many consumers that legacy services—such as telephony, television and radio—will continue to be the subject of regulatory attention.

Maintaining existing policy objectives in a converging environment will be an issue, for example, the delivery of ‘broadcast like’ services by IP over telecommunications infrastructure.

In considering the application of legislation to the delivery of communications and media services, it is necessary to distinguish between the public policy objectives of the legislation, regulatory concepts used in the legislation, and technical and commercial assumptions underpinning the legislation.

The convergence of broadcasting and telecommunications devices and delivery platforms, and the relationship between communications technologies and other sectors of the economy, increases the focus on industry development and competitiveness. This focus does not, however, diminish the importance of public interest considerations such as:

- maintaining statutory consumer safeguards (including emergency call access, law enforcement and national security arrangements) in the deployment of new and affordable IP-based products;
- privacy and security concerns relating to financial payment services offered over mobile communications networks and new technologies such as radio-frequency identifiers;
- encouraging development of innovative content services, such as IPTV and video-streaming over the internet, by a communications sector that is respectful of community standards; and
- informing the community about communications technologies and services.

The Australian Government faces the challenge of creating and administering a regulatory framework that is sufficiently flexible to be responsive to emerging technological developments and the growth of emerging services, ensuring that public interest objectives are met, while not imposing unnecessary financial and administrative burdens on the communications industry. Balancing the government’s policy objectives through its regulatory activity is a test of ACMA’s effectiveness as the communications regulator.

Further information about emerging communications issues

www.acma.gov.au/CommsReport

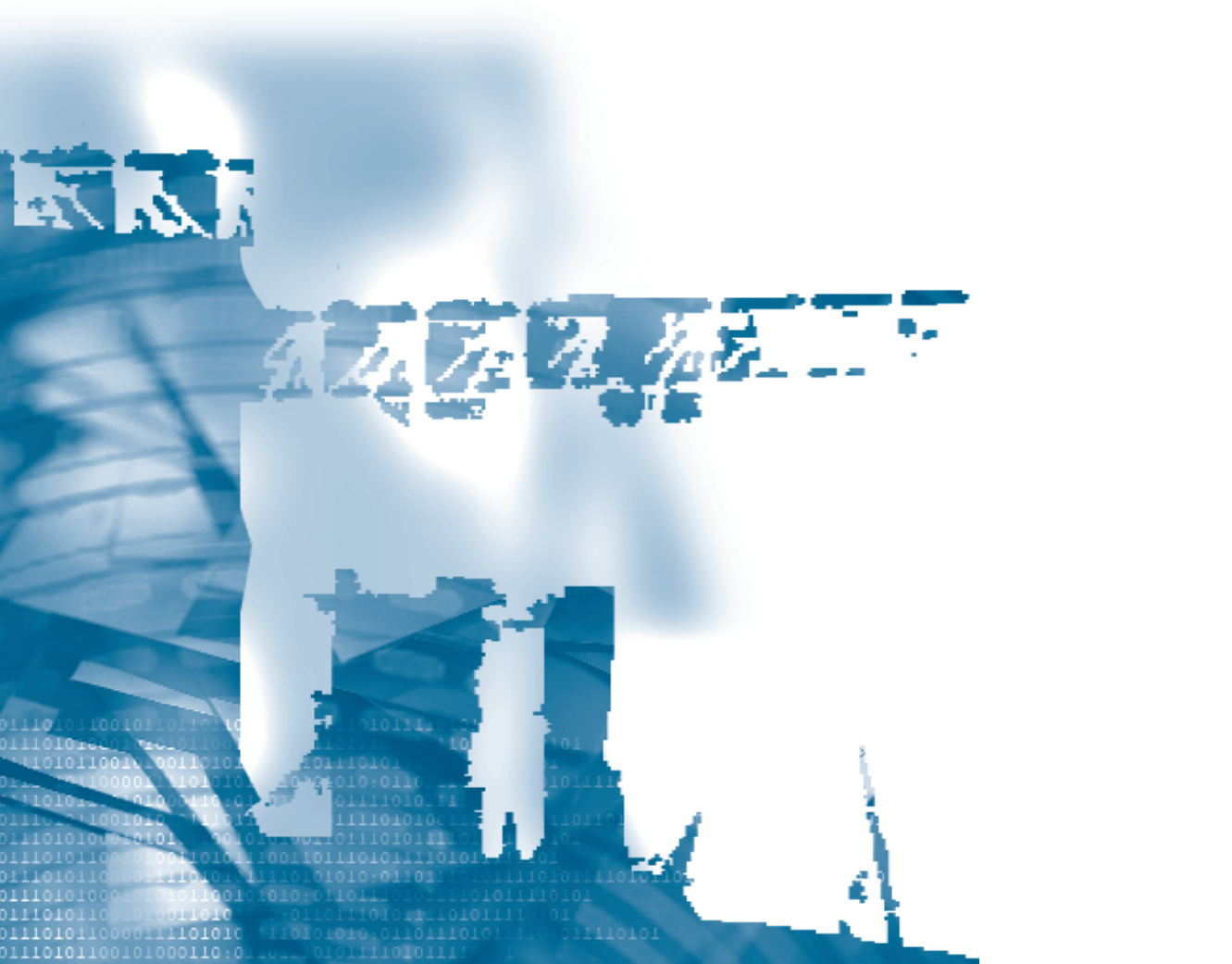
Documents

- ACMA, *Strategies for Wireless Access*, January 2006
- ACMA, *Meeting the Digital Challenge: Reforming Australia's media in the digital age—discussion paper on media reform options*, March 2006
- Claffy, K.C., *Top Problems of the Internet*, Cooperative Association of Internet Data Analysis, May 2005
- DCITA, *ICT Framework for the Future*
- European Commission, *Towards a knowledge-based Europe—The European Union and the information society*, October 2002
- International Telecommunication Union, *IMT- 2000 and systems beyond IMT-2000, ITU-R WP 8F Structure & Work Plan*, Doc. 8F/TEMP/254, December 2005
- International Telecommunication Union, *World Summit on the Information Society* (last held Tunis, 2005)
- Kozamenik, F. *IPTV, A different television?* European Broadcasting Union, Diffusion online, 2006/3
- OECD ICCP Workshop, *The Future of the Internet*, Paris, 8 March 2006
- The North American Network Operators' Group
- West, Deborah, *Is computer access enough? A multi-level analysis of the barriers to engagement*, *Southern Review*, 36.1, 2003

Organisations

- DCITA ICT Foresighting Working Group, Mapping Working Group (www.dcita.gov.au)
- European Commission (www.europa.eu)
- Federal Communications Commission, United States of America (www.fcc.gov)
- Industry Canada (www.ic.gc.ca)
- International Telecommunication Union (www.itu.int)
- Ofcom – Office of Communications, United Kingdom (www.ofcom.org.uk)

Appendixes



Chapter 1	Communications environment	
	1.1 ACMA media releases 2005–06	232
Chapter 2	Consumers and audiences	
	2.1 Consumers and audience usage statistics	242
	2.2 Consumer technology adoption segmentation	245
Chapter 3	Industry	
	3.1 Telecommunications carrier licensing data	250
	3.2 TIO scheme membership data	251
	3.3 Telecommunications numbering data	252
	3.4 Broadcasting licensing data	255
Chapter 4	Industry compliance and consumer satisfaction	
	4.1 Regulatory relationships in the communications sector	258
	4.2 ACIF code activity	259
	4.3 Telecommunications complaints to the ACCC	261
	4.4 Complaints to the TIO	262
	4.5 Broadcasting code complaints and investigations	269
Chapter 5	Communication services	
	5.1 Public payphone data	270
	5.2 Special Digital Data Service	273
	5.3 Customer Service Guarantee data	274
	5.4 Network Reliability Framework data	278
	5.5 Services for people with disabilities	282
Chapter 6	Personal protections	
	6.1 Disclosure of personal information	284
	6.2 Emergency call service data	286
	6.3 Priority assistance data	288
	6.4 Internet content investigation data	290
Chapter 7	Community and social interests	
	7.1 Telecommunications cabling data	291
Chapter 8	Services in remote indigenous communities	
	8.1 Telecommunications services in remote Indigenous communities	292
Chapter 9	Cultural policy for broadcasting	
	9.1 Expenditure on Australian drama programs by the pay TV sector	294
	9.2 First release Australian children's drama broadcast data	295
	9.3 Events on the anti-siphoning list	296

Appendix 1.1: ACMA media releases 2005–06

Media releases issued by ACMA provide a snapshot of ACMA's regulatory activities and points of focus. The more topical issues, in the list of media releases issued by ACMA in 2005–06, are annotated in the list below. Media releases have been sorted into the following categories:

- digital broadcasting;
- analog broadcasting services;
- spectrum planning;
- regulation, compliance and enforcement;
- consumer advice and protection;
- research and information; and
- fee collection.

Digital broadcasting

Extension of digital radio trials in Sydney and Melbourne

Extend current Eureka 147 digital radio trials in Sydney and Melbourne until 30 June 2007.

ACMA issues revamped digital radio trials policy

Updated policy guidelines for digital radio trials using the broadcasting services bands, including AM trials of Digital Radio Mondiale.

ACMA seeks to gauge level of industry interest in use of unassigned TV channels

The channels could potentially be used to provide subscription television, digital information services and open narrowcasting to fixed or mobile receivers.

High level of satisfaction with digital free-to-air television

Thirteen per cent of Australian households have adopted digital free-to-air television since its introduction in January 2001 and 86 per cent of adopters are satisfied with the technology, mostly due to improved picture and reception.

Changes proposed to television plans for Tasmania

ACMA is proposing to add new channels, delete channels and vary conditions of some of the technical specifications for the existing national and commercial analog television services. In addition, ACMA has released a draft variation to the digital channel plan for the southern region of Tasmania.

ACMA determines channels for digital repeater services in regional South Australia

Variation to the digital channel plans for regional South Australia to include channels for digital television repeater services.

Changes proposed to television plans for regional Victoria, southern NSW, Griffith and the Murrumbidgee irrigation area

ACMA receives expression of interest for a new digital television service in Darwin

Analog broadcasting services

ACMA seeks views on possible changes to programming rules for remote commercial radio services

Appropriateness of changing programming rules to enable remote commercial radio licensees to provide different services to different parts of their licence areas.

New community radio licence for Moss Vale, NSW

New community radio licence for Sanctuary Point, NSW

New community radio licence for Mackay, Qld

ACMA proposes a new high power open narrowcasting radio service for Canberra

ACMA makes changes to commercial radio services in remote Central and Eastern Australia licence areas

Melbourne commercial radio services 3AW and 3EE to swap frequencies

New community radio licence for Upper Murray

New community radio service for Arnhem Land, NT

ACMA proposes change of site for Mudgee radio service

ACMA proposes new community radio service for Perth

ACMA invites applications for new community radio licences in Esk, Mackay and Weipa

ACMA proposes to make additional national radio services available in Dubbo city

Technical changes proposed for Katoomba radio service

Changes proposed to commercial radio services in remote Central and Eastern Australia licence areas

Community radio service for Bicheno, Tasmania

Spectrum planning

ACMA seeks views on demand and future spectrum requirements for wireless access services

Stakeholder input sought to guide development of strategies for future wireless access services in Australia. Spectrum access is central to addressing the emerging expectations for universal fixed, mobile and nomadic connectivity. In the longer term and consistent with world-wide trends, we can expect bandwidth demands to grow, including in the regional and remote areas of Australia.

Spectrum restrictions for digital radio

Restrictions on spectrum to facilitate the introduction of digital radio services.

ACMA varies licence to allow short-range broadband communications

The *Radiocommunications (Low Interference Potential Devices) Class Licence 2000* varied to allow equipment to operate in the 60 GHz spectrum band.

ACMA issues experimental apparatus licence to radio frequency identification standards body GS1

A high power experimental apparatus licence has been issued to GS1, the radio frequency identification standards body (previously EAN Australia).

Regulation, compliance and enforcement

Australian content in TV advertising quotas

All commercial television networks reported that they exceeded the requirement to broadcast Australian-produced advertisements for 80 per cent of their advertising time between 6am and midnight during 2005.

Australian content and children's TV quotas

All but one of the metropolitan commercial television licensees reported that they met the Australian transmission quota and content requirements of the *Australian Content Standard* and *Children's Television Standards* in 2005. QTQ Brisbane fell short of the pre-school program broadcasting quota by half an hour.

HDTV quotas

All television broadcasters, except TND Darwin, reported that they met their quota requirements for the broadcast of high definition programs on their digital services in 2005.

Permit regime for submarine cables

Carriers intending to install new submarine cables in Australian waters must now apply to ACMA for a permit to do so. It is an offence to install a submarine cable without a permit or to breach the conditions of a permit.

ACMA welcomes Federal Court spam decision

Federal Court finds contraventions of the *Spam Act 2003* by Clarity1 Pty Ltd of Perth and Mr Wayne Mansfield, its managing director.

ACMA issues guidelines for its use of enforceable undertakings in relation to telecommunications obligations

Guidelines about use of enforceable undertakings associated with compliance with telecommunications obligations.

ACMA finds further episode of Big Brother Uncut breached TV code

Third episode of the 2005 series breached the Commercial Television Code of Practice. Voluntary undertaking provided by Ten in 2005.

Consumer code development costs to be reimbursed

Industry bodies and associations involved in the development of consumer-related telecommunications industry codes will be entitled to reimbursement of their costs under a new scheme beginning 23 March 2006.

ACMA decides to review the Children's Television Standards

A full review of the Children's Television Standards.

ACMA proposes new number range for VoIP services

Changes proposed to the Telecommunications Numbering Plan to accommodate voice over internet protocol (VoIP) services.

ACMA proposes anti-terrorism standards for narrowcast television services

ACMA proposes to determine new standards for subscription and open narrowcasting television services.

ACMA finds Big Brother Uncut in breach of code

Network Ten licensees in Adelaide, Brisbane, Melbourne, Perth and Sydney breached the *Commercial Television Industry Code of Practice July 2004* for broadcasts of *Big Brother Uncut*.

TEN to change Big Brother Uncut following ACMA report

Network Ten is to change its procedures regarding *Big Brother Uncut* following the finding of breaches of the *Commercial Television Industry Code of Practice July 2004*.

Federal Court issues interim injunctions under Spam Act

The Federal Court in Perth today issued interim injunctions under the *Spam Act 2003* against Clarity1 Pty Ltd of Perth and its managing director Mr Wayne Mansfield. The interim injunctions will apply until a further hearing on 4 August 2005.

ACMA proposes new phone number ranges

New phone numbers are proposed to supplement number ranges that are close to being used up in Hobart, Tasmania and regional areas of New South Wales, Victoria, Queensland and Western Australia.

Prime TV provides undertaking on captioning standards

Prime Television (Northern) Pty Ltd, the licensee of commercial television service NEN Northern New South Wales, has provided an undertaking to monitor local news compliance with captioning standards for three months.

*New wiring rules for installing customer cabling**Successful prosecution of former licensees of Cool Country Radio**ACMA finds 6AR Perth breached licence condition**Hutchison granted exemption from local number portability requirement**ACMA imposes additional licence conditions on Perth youth community broadcaster Groove FM**ACMA finds 2BCR Bankstown broadcast advertisements**ACMA finds 3BBB Ballarat broadcast advertisement**ACMA finds 2DAY FM breached codes of practice by broadcasting inappropriate sexual material during Lowie's Hot 30 Countdown**ACMA to conduct an investigation into the control of radio licences owned by Elmie Investments Pty Ltd**ACMA approves changes to cabling provider rules**ACMA finds community radio service 2000 Sydney broadcast advertisements during the Darpan program**New provision in the Children's Television Standards for the 2006 Commonwealth Games**ACMA finds Ten Perth breached code by broadcasting coarse language in promotion for The OC**ACMA finds Forster community radio service broadcast advertisements during John Laws Morning Show*

ACMA finds Ballina community radio service broadcast advertisements in the Radio on Toast program

ACMA finds Kempsey community radio service failed to keep records of broadcasts

ACMA finds 2BCR Bankstown breached code by not having conflict resolution policy

ACMA finds Channel Nine Perth failed to caption sports news segment

ACMA finds Channel Seven Perth incorrectly classified an episode of Family Guy

Melbourne company Street Nation Pty Ltd fined over radio breach

ACMA proposes changes to the Children's Television Standards for the 2006 Commonwealth Games

ACMA finds Sunshine Coast radio service breached complaints handling code

ACMA finds WIN TV Tasmania breached complaints handling code

ACMA imposes licence conditions on Muswellbrook community radio service

ACMA finds Bankstown community radio service breached limit on sponsorship announcements

ACMA finds Today Tonight did not present factual material accurately

Radio 2UE Sydney breached complaints handling code, but comment about Carson Kressley did not breach vilification code

Racing tips company fined for breach of Spam Act

ACMA finds 6YCR York in breach by failing to have policy for internal conflict resolution

ACMA grants Television Sydney a four-week extension of time to commence broadcasting

ACMA finds 2GLF Liverpool in breach for broadcasting advertisements

ACMA directs Macquarie Bank to remedy Gympie/Nambour licence control breach within six months

Cumberland Community Radio provides undertaking

ACMA finds GTV9 Melbourne failed to provide a response to a complaint within the required timeframe

Consumer advice and protection

New multi-strand approach to ACMA's consumer consultation framework

Reconstituted Consumer Consultative Forum (CCF) to bring together representatives of consumer groups, industry groups and regulatory agencies to discuss issues affecting consumers. The CCF was supplemented by a list of specialist experts with expertise in specific matters affecting consumers.

New scheme to reimburse consumer code development costs to industry bodies and associations

Telecommunications industry bodies and associations can now apply for reimbursement of the refundable costs incurred in developing consumer-related telecommunications industry codes.

ACMA to require carriers to provide consumers with reasonable notice of changes to terms and conditions

Measures introduced to encourage consistent practices by the telecommunications industry and improve consumer information about changes to standard forms of agreement.

New credit code to deal with telecommunication debt

Registration of a revised industry code to protect consumers from running up unexpectedly large phone bills.

Changes to local number portability arrangements to benefit telecommunications consumers

Industry code registered to support ‘cooling off’ periods where telemarketing is used to encourage consumers to switch landline phone providers and provide greater flexibility for retaining local numbers within larger geographic areas.

Cooling off periods to benefit telecommunications consumers

Three industry codes have been registered that will bring about the introduction of ‘cooling off’ periods for sales of certain telecommunications services.

SpamMATTERS reporting button

SpamMATTERS reporting button enables spam to be reported to ACMA with one click of a computer mouse.

ACMA registers internet industry code on spam

Code registered to require internet service providers and email service providers to provide spam filtering options to subscribers, give end-users information about spam and provide for complaints-handling processes.

ACMA warns – if email seems phishy, don't take the bait

Calls for consumers to take precautions against 'phishing' as part of a four-week campaign by the Australasian Consumer Fraud Taskforce to help people protect themselves from scams.

Australian zombie-hunting program launched

Program launched that finds 'zombie' computers on the Australian internet.

South Australia school children play Cybersmart Detectives

South Australian school children participate in ACMA's online safety activity Cybersmart Detectives.

Perth schools play Cybersmart Detectives

To coincide with National Safe Schools Week, over 200 Perth school children participate in ACMA's online safety activity, Cybersmart Detectives.

Townsville schools to play Cybersmart Detectives

Townsville school children participate in the online safety activity Cybersmart Detectives.

Keeping kids safe on the net

Relaunch of internet safety website www.cybersmartkids.com.au to remind parents and children about simple, practical tips for staying safe online.

Consumer advice for internet users

Consumers encouraged to double check that their internet service provider is offering information on how to keep families safe online.

ACMA proposes safety measures for mobile chat rooms

Draft guide recommending measures for implementation by providers of chat room services to enhance the safety of children in chat rooms accessed via mobile phones.

ACMA releases safety guide for providers of mobile chat services

Guide for mobile chat providers on how to make their services safer for children.

ACMA considers improvements to identity check processes for pre-paid mobile phone customers

Review of the way in which telephone companies collect identity information about their pre-paid mobile phone customers.

ACMA releases privacy guidelines for broadcasters

A booklet called *Privacy Guidelines for Broadcasters* has been released. The booklet provides guidance to broadcasters and the public about issues relating to privacy that broadcasters might encounter in their everyday practice.

ACMA approves improved arrangements for priority assistance customers

Approved changes to Telstra's priority assistance arrangements to streamline the application process, extend the renewal period and remove requirement to renew if shifting house.

New rules to reduce delays in reconnecting a service

An industry code has been registered that will result in reduced delays for customers moving into new premises where the previous customer has failed to request disconnection of their service.

ACMA analysis of Melbourne triple zero call

In relation to the tragic case of the murder of the Irwin sisters in Melbourne, Telstra has provided details of the 000 call made from the Irwin house.

Play it safe ... only use a registered cabler

In the aftermath of Tropical Cyclone Larry, ACMA calls on families and businesses rebuilding their homes and offices to play it safe when arranging the installation of telephone cabling by only using a registered cabler.

ACMA releases report on internet performance

Australian internet performance across different technologies and access plans is generally consistent with transmission protocols and the inherent nature of the internet.

Research and information*Broadcasting Financial Results released*

Broadcasting Financial Results 2004–05 for commercial radio and television broadcasters.

Financial performance of commercial radio sector

Financial performance of the commercial radio industry improved in 2003–04 while the radio industry's share of broadcasting revenue remained stable.

National Relay Service Performance Report 2004–05

The annual report on the service that enables people with communications impairments to use the standard telephone service tabled in federal Parliament.

Strong growth in broadband and mobile services in 2004–05, while fixed services decline

A large increase in broadband internet subscribers, continuing strong growth in mobile services and a small but significant decline in fixed services reported in ACMA's *Telecommunications Performance Report 2004–05*.

Growing diversity in regional telecommunications services

New infrastructure, products and services are increasingly being offered by telecommunications carriers in regional markets reported in ACMA's *Telecommunications Services Availability in Australia 2004–05*.

Mixed results for customer satisfaction about telephone fault repairs, transfers and connections

While customer satisfaction with their telephone fault repair service has remained relatively constant, satisfaction with telephone transfer or connection of service was lower in 2005, reported in ACMA's *Consumer Satisfaction Survey 2005: Fault restoration and connection of service*.

Lower prices drive shift to broadband

Increases in the number of broadband subscribers and the amount of internet activity, underpinned by price cuts, stimulated growth of ADSL broadband.

Inaugural ACMA Broadcasting Conference

Inaugural ACMA Broadcasting Conference on Wednesday 9 and Thursday 10 November 2005 at the Hyatt Hotel in Canberra.

Final ABA and ACA annual reports released

The final annual reports of the Australian Broadcasting Authority and the Australian Communications Authority tabled in Parliament.

ACMA to host Asia-Pacific telecommunications forum

The 10th meeting of the Asia-Pacific Telecommunity Standardization Program (ASTAP) hosted by ACMA in Melbourne from 26 to 28 October 2005.

ACMA releases Telecommunications Performance Monitoring Bulletin

The *Telecommunications Performance Monitoring Bulletin* is released, containing quarterly and annual data for 2004–05.

Community radio offers diversity of music, locally-produced programs and community participation

Research into the services and operations of over 260 community radio stations.

Fee collection

ACMA collects \$271.5 million in broadcasting licence fees

Collected commercial broadcasting licence fees of \$271.5 million for the 2004–05 financial period.

Appendix 2.1: Consumer and audience usage statistics

Usage statistics data tables

Table 2.1.1: Mobile phone, computer and internet use, 1998, 2001–02 and 2005–06

	1998	2001–02	2005–06	
Households with access to a mobile phone	44%	72%	n/a	79.4% of people aged 14+ yrs
Households with a computer	44%, 3.08 m households	58%, 4.31 m households, 2001	67%, 5.3 m households, 2005	75%, 6.0 m households
Households connected to the internet	16%, 1.1 m households	42%, 3.11 m households	63.7%, 5.1 m households (32.5% broadband), 2006	61.6%, (35.5% broadband) Apr–Jun 2006

Sources:
ABS 4102.0, *Australian Social Trends*, 2006
ABS 1377.0, *Measures of a Knowledge-based Economy and Society*, 2003
ABS 8153.0, *Internet Activity June 2006* (assumes 8.0 million households)

Source:
Roy Morgan
Research Single
Source Survey, July
2005–June 2006

Table 2.1.2: Mobile phone use by age group, 2005–06

	14–17 yrs	18–24 yrs	25–34 yrs	35–49 yrs	50–64 yrs	65+ yrs	Total
Mobile phone attitudes							
Own or use a mobile phone	74.3%	87.7%	89.8%	85.7%	77.7%	52.9%	79.4%
I now use my mobile phone more than my home phone	53.8%	67.8%	49.6%	32.7%	20.2%	6.5%	36.5%
I would seriously consider buying a 3G phone	22.8%	25.7%	21.8%	14.0%	7.8%	4.1%	15.2%
Of mobile phone users – mobile phone functions currently used							
Send or receive SMS	88.3%	91.7%	88.7%	78.4%	59.4%	25.0%	73.3%
Downloading ringtones or icons	22.8%	21.9%	12.6%	7.0%	4.8%	4.0%	10.2%
Listening to the radio	20.5%	18.6%	13.3%	6.5%	2.5%	0.5%	8.8%
Playing games	65.4%	50.6%	36.4%	19.0%	6.3%	2.4%	24.8%
Taking photos	41.9%	54.3%	41.2%	26.2%	13.5%	3.4%	28.6%
Sending or receiving email	11.7%	7.7%	8.1%	6.1%	3.2%	1.1%	5.9%

Source: Roy Morgan Single Source, July 2005–June 2006

Table 2.1.3: 3G mobile phone services subscription numbers, mid–2006

Based on information provided by mobile carriers, ACMA estimates that 3G services comprise 8.0% of the mobile phone market	Source: Industry data from ACMA data request, June 2006
One industry analyst commented: '3G subscriber numbers grew moderately over the 2005–06 reporting period, from 3.2% at the end of July 2005 to 8% at the end of June 2006'	Source: Ovum–Communications Day, 25 July 2006

Table 2.1.4: Internet usage by age group, 2005–06

	14–17 yrs	18–24 yrs	25–34 yrs	35–49 yrs	50–64 yrs	65+ yrs	Total
Internet connection at home (household, April–June 2006)	80.4%	60.9%	65.9%	74.5%	65.1%	33.8%	61.6%
Have broadband at home (household, April–June 2006)	49.4%	40.3%	40.7%	45.4%	36.7%	13.9%	35.5%
Used an internet café (last 3 months)	4.5%	6.3%	6.9%	3.2%	2.5%	0.6%	3.8%
Currently use VoIP	3.8%	3.2%	5.7%	4.1%	3.4%	1.7%	3.7%
Likelihood of using a VoIP service in the next 12 months (very likely, likely)	6.3%	11.2%	17.1%	15.2%	14.2%	6.3%	13.0%
Use of internet – email	72.0%	75.0%	77.3%	73.5%	63.0%	30.9%	65.8%
Use of internet – academic/business research	45.2%	51.9%	48.9%	49.8%	36.4%	11.6%	41.1%
Use of internet – shopping/paying bills/banking	13.2%	39.3%	59.6%	50.4%	37.1%	13.6%	39.8%
Use of internet – socialising/entertainment	76.7%	65.5%	57.0%	46.7%	33.7%	15.1%	45.2%

Source: Roy Morgan Single Source, July 2005–June 2006

Appendix 2.2: Consumer technology adoption segmentation

Table 2.2.1: Socioeconomic variables by adoption segments, 2005–06

		Inno- vators	Early adopters	Early majority	Late majority	Non- adopters	Total
	Popn 14+ yrs (million – weighted to popn)	0.54 m	2.11 m	7.07 m	5.0 m	1.96 m	16.68 m
	Sample, n=	606	2,345	8,851	7,289	3,623	22,714
Region	Capital cities	72.4%	79.1%	60.7%	58.1%	56.8%	62.2%
	Country areas	27.6%	20.9%	39.3%	41.9%	43.2%	37.8%
Gender	Men	57.5%	54.1%	47.5%	49.1%	48.6%	49.3%
	Women	42.5%	45.9%	52.5%	50.9%	51.4%	50.7%
Age	14–17 yrs	6.0%	7.5%	7.0%	7.0%	4.3%	6.7%
	18–24 yrs	9.8%	10.3%	13.2%	13.2%	5.0%	11.8%
	25–34 yrs	26.7%	14.6%	19.2%	17.9%	5.9%	16.9%
	35–49 yrs	29.8%	35.3%	31.3%	21.5%	14.7%	26.9%
	50–64 yrs	22.7%	27.6%	22.4%	23.7%	25.3%	23.8%
	65+ yrs	5.0%	4.7%	6.9%	16.7%	44.9%	13.9%
Socio- economic quintile – AB quintile represents high wealth, education and occu- pation	AB quintile	37.9%	36.2%	23.0%	12.6%	5.6%	20.0%
	C quintile	24.4%	23.6%	25.0%	14.6%	10.6%	20.0%
	D quintile	15.2%	20.8%	21.1%	20.5%	15.1%	20.0%
	E quintile	14.2%	12.1%	18.5%	24.4%	24.1%	20.0%
	FG quintile	8.2%	7.3%	12.3%	27.8%	44.5%	20.0%
Occupation	White collar worker	21.6%	24.2%	25.6%	16.1%	8.6%	20.4%

Source: Roy Morgan Single Source, July 2005–June 2006

Table 2.2.2: Non-adoption segment profile, 2005–06

70.1% of the non-adopters segment are over 50 years of age (refer to Table 2.2.1). The remainder have lower than average wealth, as can be seen by the high representations in the E and FG socio-economic quintiles.

Socio-economic quintile	AB quintile – represents high wealth, education and occupation	C quintile	D quintile	E quintile	FG quintile – represents low wealth, education and occupation
Non-adopters aged <50 yrs	10.6%	16.1%	19.8%	24.4%	29.9%
Total population	20.0%	20.0%	20.0%	20.0%	20.0%

Source: Roy Morgan Single Source, July 2005–June 2006

Table 2.2.3: Usage statistics by adoption segments, 2005–06

		Innovators	Early adopters	Early majority	Late majority	Non-adopters	Total
Usage	Own or use a mobile phone	All by definition	All by definition	All by definition	70.4%	None by definition	79.4%
	Internet connection at home (household)	All by definition	All by definition	All by definition	26.1%	None by definition	61.6%
	Broadband at home (household, Apr–Jun 2006)	87.4%	All by definition	40.3%	13.2%	None by definition	35.5%
	Currently use VoIP	All by definition	None by definition	None by definition	n/a	n/a	3.7%
	Likelihood of using a VoIP service in the next 12 months (very likely, likely)	n/a	26.9%	16.7%	7.3%	n/a	13.0%
Internet usage – no. of times in last week	Heavy (8+ times)	71.8%	64.6%	39.4%	16.2%	2.4%	32.3%
	Medium (1–7 times)	24.4%	29.7%	48.7%	22.9%	5.1%	32.6%
	Light (<1 time)	3.4%	5.1%	11.2%	27.0%	19.1%	15.8%
	Never accessed the internet	0.4%	0.6%	0.8%	33.9%	73.5%	19.2%

Table 2.2.3: Usage statistics by adoption segments, 2005–06 (continued)

		Inno- vators	Early adopters	Early majority	Late majority	Non- adopters	Total
Commercial TV viewing – no. of hours on a normal weekday	Heavy (4+ hours)	12.6%	13.3%	18.7%	24.7%	29.1%	20.8%
	Medium (2–4 hours)	37.8%	41.2%	40.9%	40.6%	41.0%	40.8%
	Light (<2 hours)	38.2%	37.8%	34.6%	28.9%	23.6%	32.1%
	No commercial TV viewing	11.4%	7.7%	5.8%	5.7%	6.4%	6.3%
	Pay TV (watched in the last 7 days)	27.5%	28.4%	21.1%	18.3%	16.3%	20.8%

Source: Roy Morgan Single Source, July 2005–June 2006

Table 2.2.4: Attitudes and mobile phone functions by adoption segments, 2005–06

		Inno- vators	Early adopters	Early majority	Late majority	Non- adopters	Total
Of mobile phone users	Agreed 'I would seriously consider buying a 3G phone'	24.6%	20.7%	14.7%	11.5%	n/a	15.2%
Of mobile phone users – mobile phone functions currently used	Send or receive SMS	82.6%	77.8%	76.1%	63.6%	n/a	73.3%
	Downloading ringtones or icons	9.1%	11.2%	10.0%	10.2%	n/a	10.2%
	Listening to the radio	12.1%	9.4%	8.7%	8.0%	n/a	8.8%
	Playing games	28.7%	23.4%	25.4%	24.0%	n/a	24.8%
	Taking photos	34.7%	35.2%	29.0%	23.0%	n/a	28.6%
	Sending or receiving email	10.9%	7.9%	5.9%	3.8%	n/a	5.9%
	Global roaming	16.9%	12.7%	5.5%	3.8%	n/a	6.7%

Table 2.2.4: Attitudes and mobile phone functions by adoption segments, 2005–06 (continued)

		Inno- vators	Early adopters	Early majority	Late majority	Non- adopters	Total
Attitudes	Agreed 'Would like to use the internet, but am intimidated by the complexity of it all'	n/a	n/a	11.8%	23.1%	25.0%	16.1%
	Agreed 'I find technology is changing so fast, it's difficult to keep up with it'	52.5%	58.1%	63.9%	71.5%	78.4%	66.8%
	Agreed 'There's too much change going on these days'	29.6%	34.6%	39.5%	49.9%	60.6%	44.2%
	Agreed 'I believe in taking risks'	52.5%	42.8%	42.1%	35.9%	21.1%	38.2%
	Agreed 'I go out of my way to learn everything I can about new technology'	48.7%	38.8%	31.3%	25.7%	20.4%	29.9%
	Agreed 'I am interested in being able to access the internet wherever I am'	75.6%	63.7%	52.3%	31.4%	10.4%	43.3%
	Agreed 'Computers and technology give me more control'	59.4%	48.3%	37.0%	21.6%	9.0%	31.2%
	Of those with internet connection – ever bought anything on the internet	64.7%	57.5%	44.3%	28.8%	n/a	45.7%

Source: Roy Morgan Single Source, July 2005–June 2006

Table 2.2.5: Reasons non-adopters are unlikely to connect to the internet, January–June 2006

	Split of non-adopters (why not likely to use internet)	<50yrs	>50 yrs	Total non-adopters
Likelihood to connect from home in the next 6 months	Likely	11.3	2.0%	4.9%
	Unlikely	74.7%	91.2%	86.0%
	Don't know/no answer	14.1%	6.8%	9.1%
Which of the following reason(s) describe why you are unlikely to connect to the internet at home in the next 6 months?	Too difficult	14.7%	11.6%	12.4%
	Too expensive	34.3%	23.8%	26.7%
	Not relevant to my lifestyle	37.9%	70.6%	61.6%
	Lack of confidence in the service provider	1.1%	2.0%	1.8%
	Disappointed with what seen on internet so far	3.9%	4.0%	4.0%
	Not available in the area I live in	0.0%	0.4%	0.3%
	Already available to me at work	12.3%	2.9%	5.4%
	Other/can't say	26.2%	13.1%	16.7%

Source: Roy Morgan Single Source, January 2006–June 2006

Appendix 3.1: Telecommunications carrier licensing data

Telecommunications licences

Telecommunications carriers are licensed by ACMA under section 56 of the *Telecommunications Act 1997* (the Act). ACMA is required to maintain a public register of carrier licensees under section 84 of the Act.

Table 3.1.1: Telecommunications licences, 1997–98 to 2005–06

	1997–98	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06
Issued	21	8	16	32	23	20	14	40	35
Surrendered	-	-	2	4	13	7	8	6	10
Active	21	29	43	71	81	94	99	132	157
Cancelled	-	-	-	-	-	-	1	1	-

Source: ACMA

Telecommunications carrier eligible revenues

Under section 20 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*, telecommunications carriers provide financial information to ACMA. ACMA uses the financial information to calculate each carrier's eligible revenues in accordance with the *Telecommunications Universal Service Obligation (Eligible Revenue) Determination 2003*. Broadly, eligible revenue is calculated as the gross sales revenue of a carrier and its related parties, less a series of revenue and expense deductions.

Eligible revenue determines how much each participating person must contribute to the universal service regime subsidy, digital data service cost, the National Relay Service and their annual carrier licence fee.

Table 3.1.2: Telecommunications carrier eligible revenues, 2000–01 to 2005–06

	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06
Telstra	76.6%	73.1%	70.8%	68.9%	67.3%	66.1%
Optus	14.3%	15.8%	16.5%	17.9%	19.4%	20.5%
Vodafone	4.3%	5.1%	5.3%	5.2%	5.2%	5.0%
AAPT	1.7%	1.8%	2.7%	2.7%	2.6%	2.2%
All others	3.1%	4.1%	4.7%	5.4%	5.5%	6.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: ACMA

Appendix 3.2: TIO scheme membership data

Under Part 6 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*, carriage service providers (CSPs) are required to be members of the Telecommunications Industry Ombudsman (TIO) scheme.

Table 3.2.1: TIO scheme membership, 1996–97 to 2005–06

End of financial year (June 30)	Internet service providers	Other	Telephone and internet service provider	Telephone service provider	Total
1996–97	-	16	-	3	19
1997–98	460	15	-	60	535
1998–99	760	24	15	79	878
1999–00	851	35	37	68	991
2000–01	889	59	51	90	1,089
2001–02	757	42	66	98	963
2002–03	692	40	72	106	910
2003–04	758	33	106	146	1,043
2004–05	763	37	161	174	1,135
2005–06	719	51	225	175	1,170

**Shaded area indicates non-compulsory TIO membership*
Source: TIO

Appendix 3.3: Telecommunications numbering data

Geographic number allocations and surrenders

ACMA administers geographic numbers in accordance with the *Telecommunications Numbering Plan 1997*. Geographic numbers are used to provide access to local telephone services and related voicemail services, facsimile services, internet dial-up services and termination numbers for freephone and local rate services.

Table 3.3.1: Demand for geographic numbers, 1999–00 to 2005–06

	Allocated		Surrendered		Net increase		Cumulative total	
	Metro	Non-metro	Metro	Non-metro	Metro	Non-metro	Metro	Non-metro
2005–06	777,000	214,000	-	-	777,000	214,000	37,289,000	39,913,000
2004–05	1,968,000	8,788,000	321,000	2,744,000	1,647,000	6,044,000	36,512,000	39,699,000
2003–04	473,000	191,000	61,000	26,000	412,000	165,000	34,865,000	33,655,000
2002–03	710,000	77,000	100,000	-	610,000	77,000	34,453,000	33,490,000
2001–02	622,000	154,000	150,000	119,000	472,000	35,000	33,843,000	33,413,000
2000–01	1,453,000	206,000	30,000	375,000	1,423,000	-169,000	33,513,000	33,378,000
1999–00	5,081,000	5,373,000	20,000	-20,000	-	32,090,00	-	33,547,000

Source: ACMA

Data network access service number allocations

ACMA administers data network access service (DNAS) numbers in accordance with the *Telecommunications Numbering Plan 1997*. DNAS numbers commence with 0198 and provide access to features and facilities on data networks.

Table 3.3.2: Demand for data network access service, 1999–00 to 2005–06

	Allocated	Surrendered	Net increase	Cumulative total
2005–06	-	-	-	79,000
2004–05	10,000	-	10,000	79,000
2003–04	1,000	-	1,000	69,000
2002–03	32,000	1,000	31,000	68,000
2001–02	28,000	1,000	27,000	37,000
2000–01	-	-	-	10,000
1999–00	-	-	-	10,000

Source: ACMA

Mobile number allocations

ACMA administers mobile telephony numbers in accordance with the *Telecommunications Numbering Plan 1997*. Mobile services using GSM, CDMA and 3G technologies use 10-digit numbers starting with 04.

Table 3.3.3: Demand for digital mobile numbers, 1999–00 to 2005–06

	Allocated	Surrendered	Net increase	Cumulative total
2005–06	500,000	910,000	-410,000	37,110,000
2004–05	6,500,000	1,000,000	5,500,000	37,520,000
2003–04	2,420,000	-	2,420,000	32,020,000
2002–03	3,300,000	400,000	2,900,000	29,600,000
2001–02	500,000	500,000	-	26,700,000
2000–01	2,500,000	100,000	2,400,000	26,700,000
1999–00	6,000,000	-	6,000,000	24,300,000

Source: ACMA

Telecommunications number portability data

Industry reports to ACMA the volume of numbers ported each year, primarily for the purpose of section 105 of the *Telecommunications Act 1997*. However, the *ACIF C570: 2005 Mobile Number Portability Industry Code* requires industry participants to report to ACMA on specific performance metrics.

Table 3.3.4: Number porting volumes, 1997–98 to 2005–06

	Local number ports (LNP)	Freephone and local rate number ports (FLRN)	Mobile number ports (MNP)
1997–98	LNP commenced 1 May 1998	n/a	n/a
1998–99	82,000	n/a	n/a
1999–00	119,000	FLRN commenced 16 November 2000	n/a
2000–01	108,000	6,103	MNP commenced 25 September 2001
2001–02	308,000	13,946	–
2002–03	418,000	12,388	654,000
2003–04	334,000	11,728	1,120,000
2004–05	580,000	9,545	1,285,000
2005–06	698,000	12,777	1,495,000

Source: ACMA

Appendix 3.4: Broadcasting licensing data

Commercial broadcasting services are licensed by ACMA under Part 4 of the *Broadcasting Services Act 1992*. Licences to provide commercial radio and television services that use the broadcasting services bands (BSB) are allocated using a price-based, auction-style system. Licences are issued for five years and are generally renewed on application for a further five years.

Broadcasting licensees are entitled to an apparatus licence issued under the *Radiocommunications Act 1992* to transmit the service using the part of the BSB determined by ACMA.

Commercial radio broadcasting licences

Table 3.4.1: Commercial radio broadcasting licences commenced, 2001 to 2006

Service commenced	Licence area	Licensee	On-air identifier
25 March 2001	Sydney, NSW	Nova 96.9 Pty Ltd	Nova 969
28 July 2001	Campbelltown, NSW	Campbelltown Radio Pty Ltd	C91.3
26 September 2001	Brisbane, Qld	Brisbane FM Radio Pty Ltd	97.3fm
3 December 2001	Melbourne, Vic	Nova 100 Pty Ltd	Nova 100
15 April 2002	Sale, Vic	ACE Radio Broadcasters Pty Ltd	3TR FM
3 May 2002	Warragul, Vic	Votaint No.691 Pty Ltd	Sea FM
27 July 2002	Warrnambool, Vic	Regional Communications Pty Ltd	Coast FM 95.3
5 December 2002	Perth, WA	DMG Radio (Perth) Pty Ltd	Nova 93.7
18 February 2003	Scottsdale, Tas	North East Tasmanian Radio Broadcasters Pty Ltd	Sea FM
19 June 2003	Burnie, Tas	Burnie Broadcasting Service Pty Ltd	Sea FM
1 August 2003	Gold Coast, Qld	Hot Tomato Australia Pty Ltd	1029 Hot Tomato
16 March 2004	Gosford, NSW	Star 104.5 Pty Ltd	Star 104.5
16 August 2004	Brisbane, Qld	Daily Mail (UK Radio 2) Pty Ltd	Nova 106.9
1 August 2005	Sydney, NSW	Daily Mail (UK Radio 1) Pty Ltd	Vega 95.3
1 August 2005	Melbourne, Vic	Daily Mail (UK Radio 3) Pty Ltd	Vega 91.5

Source: ACMA

Commercial television broadcasting licences

Table 3.4.2: Commercial television broadcasting licences allocated, 1992 to 2006

Service commenced	Licence area	Licensee	On-air identifier
1 July 1997	Mildura/Sunraysia	Prime Television (Victoria) Pty Ltd	PRIME
5 October 1997	Griffith & Murrumbidgee Irrigation Area	WIN Television Griffith Pty Ltd	PRIME
26 March 1999	Remote and regional WA	WIN Television WA Pty Ltd	WIN Television
27 March 1998	Darwin, NT	Regional Television Pty Ltd	Southern Cross Darwin
16 December 2003	Broken Hill, NSW	Broken Hill Television Ltd	Southern Cross TEN
22 December 2003	Tasmania	Tasmanian Digital Television Pty Ltd	TAS Digital TV
31 December 2003	Spencer Gulf	Spencer Gulf Telecasters Ltd	Southern Cross TEN
1 January 2004	Mount Gambier	WIN Television SA Pty Ltd	WIN TEN
1 January 2004	Riverland	WIN Television SA Pty Ltd	WIN TEN Riverland
1 January 2006	Mildura/Sunraysia	Mildura Digital Television Pty Ltd	MDV

Source: ACMA

Non-broadcasting services bands commercial radio licences

Section 40 of the *Broadcasting Services Act 1992* provides for the allocation of commercial and community radio and television licences for services that do not use the BSB.

Unlike BSB licences (which carry an entitlement to an apparatus licence), non-BSB licences permit the provision of content only, with licensees making their own arrangements for service delivery.

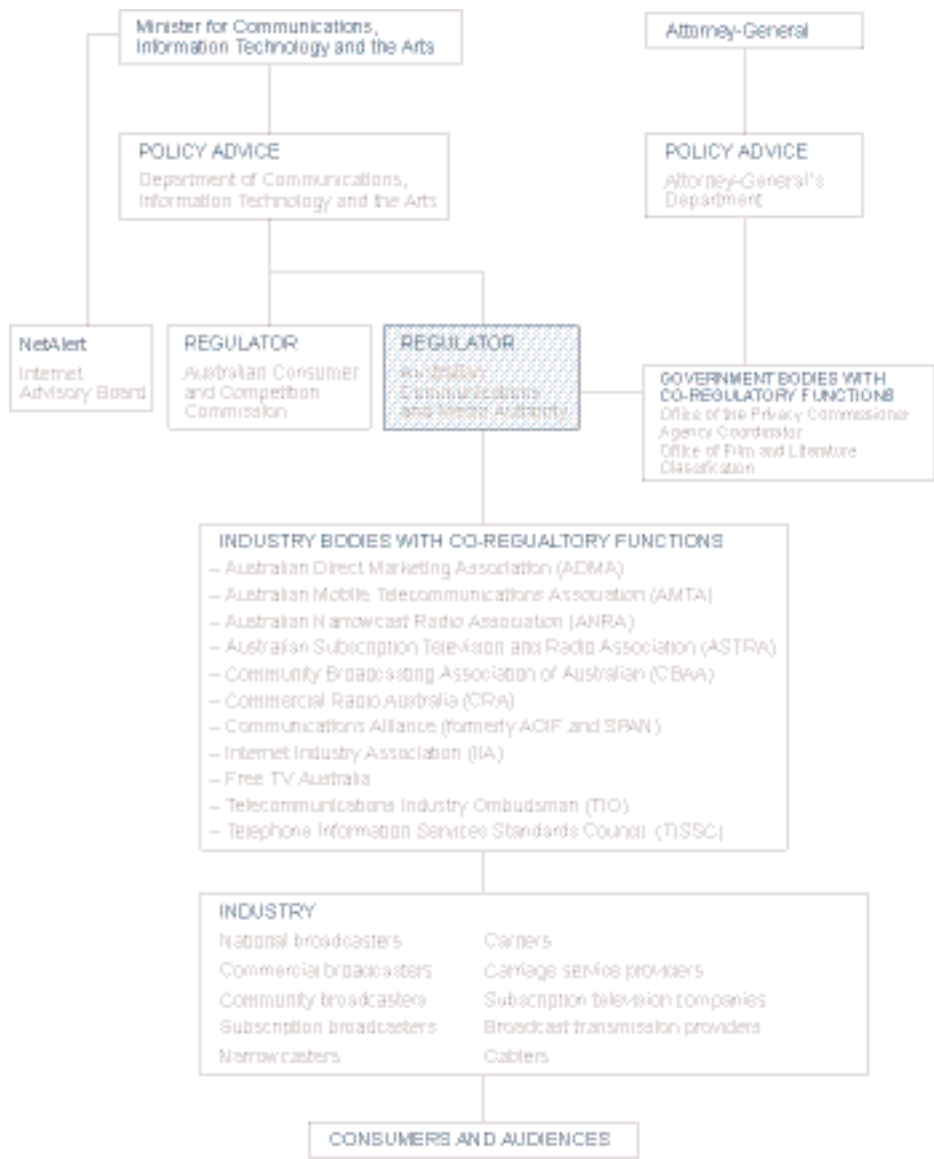
Non-BSB licences are allocated on application and after payment of a fee determined by ACMA (currently \$2,400).

Table 3.4.3: Non-BSB commercial radio licences allocated, 1992 to 2006

Year allocated	Licence area	Licensee	On-air identifier
1998	Australia	Hy-Grade Properties Pty Ltd	NTC (News Talk & Country)
1998	Australia	Promo-Radio Pty Ltd	Radio Salsa
1998	Albany, WA	Pirate Broadcasters Pty Ltd	Radio AM 1611 Albany
1998	Geraldton, WA	Worldaudio Communications Pty Ltd	Radio 2
1998	Kalgoorlie, WA	Worldaudio Communications Pty Ltd	Radio 2
1998	Wagin, WA	Cybervale Pty Ltd (cancelled)	
2000	Queensland	Pinecam Pty Ltd	4DB
2000	Sydney, NSW	Labor Media Pty Ltd	2KM
2000	Margaret River, WA	The Cow AM1611 Pty Ltd	AM 1611
2001	Australia	Worldaudio Communications Pty Ltd	Radio 2
2001	Western Australia	Aussie Regional Pty Ltd (surrendered)	
2002	Australia	G'day G'day Radio Holdings Pty Ltd	
2002	Perfect s40 (one licence comprising Adelaide, Brisbane, Canberra, Melbourne, Perth and Sydney)	Australian Independent Radio Network Pty Ltd	
2002	Queensland and Northern Territory	Coastal Broadcasters Pty Ltd	Radio Hinchinbrook
2002	Emerald, Qld	Murrangi Holdings Pty Ltd	4EM

Source: ACMA

Appendix 4.1: Regulatory relationships in the communications sector



Source: ACMA

Appendix 4.2: ACIF code activity in 2005–06

ACIF codes registered by ACMA in 2005–06

Registered on 18 August 2005, *ACIF C617:2005 Connect Outstanding* provides competitively neutral procedures for timely connection of a new occupant's standard telephone service where a working service has not been cancelled at the service address.

ACIF code de-registered in 2005–06

ACIF C580:Short Message Service (SMS) Issues was de-registered on 8 June 2006 due to inconsistency with the *Spam Act 2003*.

ACIF codes revised and re-registered in 2005–06

- *ACIF C515:2005 Pre-selection*;
- *ACIF C570:2005 Mobile Number Portability*;
- *ACIF C531:2005 Commercial Churn*;
- *ACIF C540:2005 Local Number Portability* was also revised to ensure consistency with the *Telecommunications Numbering Plan 1997*; and
- *ACIF C541:2006 Credit Management* was revised to assist customers having difficulties in paying their bills.

Codes submitted to ACMA in 2005–06, with registration pending at 30 June 2006

- *ACIF C540:2005 Local Number Portability*; and
- *ACIF C525:2005 Handling of Life Threatening and Unwelcome Calls*.

ACIF codes under review at 30 June 2006

- *ACIF C518: June 2000 Call Charging and Billing Accuracy;*
- *ACIF C522: February 2003 Calling Number Display;*
- *ACIF C546: October 2001 Customer Transfer;*
- *ACIF C555: 2002 Integrated Public Number Database (IPND) Data Provider, Data User and IPND Manager;*
- *ACIF C559: 2005 Unconditioned Local Loop Service Network Deployment Rules; and*
- *ACIF C609: 2003 Priority Assistance for Life Threatening Medical Conditions.*

New industry code under development at 30 June 2006

- *ACIF C625: 2005 Accessibility Feature Information for Telephone Equipment* aims to improve the accessibility to information about features of telecommunications equipment for people with special needs.

The full list of ACIF codes is on the Communications Alliance website at www.acif.org.au.

Appendix 4.3: Telecommunications complaints to the ACCC

The Australian Competition and Consumer Commission (ACCC) administers telecommunications under the *Trade Practices Act 1974* in relation to general consumer protection functions under Part V, section 52 (misleading and deceptive conduct), as well as industry-specific provisions under Part XIB (anti-competitive conduct) and Part XIC (the access regime).

Table 4.3.1: Telecommunications complaints to the ACCC by type, 2003–04 to 2005–06

Service	2003–04			2004–05			2005–06		
	Part V section 52 (misleading and deceptive conduct)	All other parts of the Trade Practices Act	Total	Part V section 52 (misleading and deceptive conduct)	All other parts of the Trade Practices Act	Total	Part V section 52 (misleading and deceptive conduct)	All other parts of the Trade Practices Act	Total
Fixed line services	669	1,160	1,829	670	646	1,316	752	1,201	1,953
Mobile services	287	408	695	583	493	1,076	653	755	1,408
Billing disputes	27	37	64	328	219	547	285	265	550
Provision and fault handling	335	574	909	99	100	199	49	126	175
Internet services	350	700	1,050	586	659	1,245	497	726	1,223
Phone cards	52	136	188	53	39	92	n/a	n/a	n/a
Other	80	98	178	160	247	407	201	329	530
Total telecommunications	1,800	3,113	4,913	2,479	2,403	4,882	2,437	3,402	5,839
Internet domain names	n/a	n/a	n/a	n/a	n/a	n/a	127	53	180
Pay TV	n/a	n/a	n/a	n/a	n/a	n/a	51	43	94
Total telecommunications	1,800	3,113	4,913	2,479	2,403	4,882	2,615	3,498	6,113

Source: ACCC

Appendix 4.4: Complaints to the TIO

The Telecommunications Industry Ombudsman (TIO) is an independent scheme for the investigation and resolution of complaints about CSPs by residential and small business customers.

The total number of complaints received by the TIO increased by:

- 26.4 per cent between 2004–05 and 2005–06, to 127,479; and
- 87.4 per cent between 2003–04 and 2005–06.

The total number of contacts with the TIO increased to 107,601 in 2005–06, up by 10 per cent on the previous year and 42 per cent on 2003–04. A complaint contact with the TIO may include multiple complaint issues.

Table 4.4.1 shows complaint trends, disaggregated between fixed-line, mobile and internet services. During 2005–06, there were large increases in all three categories:

- internet complaints up 44 per cent to 23,066;
- mobile phone complaints up 29 per cent to 52,119; and
- fixed-line complaints up 17 per cent to 52,294.

Table 4.4.1: Complaints to the TIO and percentage change, 1998–99 to 2005–06

Year	Mobile	Fixed	Internet	Total	% change
1998–99	63,069		3,954	67,023	–
1999–00	56,504		4,292	60,796	–9%
2000–01	72,745		7,965	80,710	33%
2001–02	20,434	40,303	9,497	70,234	–13%
2002–03	16,773	37,206	8,691	62,670	–11%
2003–04	21,465	36,167	10,388	68,020	9%
2004–05	40,254	44,559	16,012	100,825	48%
2005–06	52,119	52,294	23,066	127,479	26%

Note: Complaints were not disaggregated between fixed and mobile services prior to 2001–02.

Source: TIO

Complaints to the TIO by level, 2005–06

The TIO has four complaint management levels:

Level 1 complaints – resolution by industry

A Level 1 complaint is an expression of grievance or dissatisfaction about a matter within the TIO's jurisdiction that the company concerned has had an opportunity to consider.

During 2005–06, 91.1 per cent of complaints to the TIO were resolved at Level 1.

Level 2 and 3 complaints – resolution through conciliation

The TIO investigates complaints at Levels 2 and 3 with the aim of conciliating an outcome between the customer and the respondent. If a complaint is not resolved at Level 2 within 21 days and the TIO believes it requires further investigation, the complaint is escalated to Level 3.

In 2005–06, 7.3 per cent of complaints to the TIO were resolved at Level 2 and 1.5 per cent were resolved at Level 3.

Level 4 complaints – resolution through TIO determination

A Level 4 complaint is either a complaint that was not resolved by the TIO at Level 3 and that the TIO deems to require further consideration or investigation, or a complaint regarding a land access dispute. The TIO may make a determination or recommendation at Level 4. A TIO determination is binding on the respondent, but not on the customer.

During 2005–06, 0.1 per cent of complaints to the TIO were resolved at Level 4.

ACIF code complaints to the TIO

At 30 June 2006, the TIO has conferral of powers under section 114 of the *Telecommunications Act 1997* for 14 registered ACIF codes. The conferral of powers authorises the TIO to handle small business and consumer complaints relating to the provisions of these codes.

Between 2002–03 and 2004–05, complaints were recorded under the four categories relating variously to code signatories and non-signatories: potential, possible, confirmed, and established breaches. In 2005–06, the TIO removed the distinction between code signatories and non-signatories. Complaints were recorded under the following TIO categories:

- possible breach—a Level 1 complaint where the complaint refers to a code rule and has not been investigated by the TIO; and
- confirmed breach—a complaint escalated to Level 2 or above where the TIO investigation has confirmed a breach of the code.

Table 4.4.2: TIO complaints – confirmed and established code breaches by code, 2002–03 to 2005–06

Code full name [#]	Short name	2002–03	2003–04	2004–05	2005–06*
ACIF C515:2005 Pre-selection	Pre-selection	-	-	-	--
ACIF C521:2004 Customer Information on Prices, Terms and Conditions	Prices, Terms & Conditions	13	31	32	30
ACIF C522:2001 Calling Number Display	CND	1	-	-	1
ACIF C525:2002 Handling of Life Threatening and Unwelcome Calls	Handling Unwelcome Calls	-	1	-	1
ACIF C531:2005 Commercial Churn	Commercial Churn	12	19	12	13
ACIF C540:2005 Local Number Portability	LNP	n/a	-	1	-
ACIF C541:2003 Credit Management	Credit Management	40	85	131	120
ACIF C542:2003 Billing	Billing	23	72	122	123
ACIF C546:2001 Customer Transfer	Customer Transfer	48	66	64	78
ACIF C547:2004 Complaint Handling	Complaint Handling	123	174	168	276
ACIF C570:2005 Mobile Number Portability	MNP	-	5	11	8
ACIF C609:2003 Priority Assistance for Life Threatening Medical Conditions	Priority Assistance	n/a	1	2	3
ACIF C617:2005 Connect Outstanding	Connect Outstanding	n/a	n/a	n/a	-
ACIF C620:2005 Consumer Contracts	Consumer Contracts (a guideline prior to May 2005)	n/a	31	42	30 [^]
Industry Guideline ACIF C523:2001 Protection of Personal Information of Customers of Telecommunications Providers	Customer Personal Information (not registered)	3	-	4	5
Total		263	485	589	688

n/a: not applicable

Each entry is an industry code unless otherwise specified

** Confirmed breaches*

[^] Comprises 28 breaches under the guideline (prior to code implementation on 4 November 2005) and two under the code (since implementation)

Source: TIO

Confirmed breaches of ACIF code recorded by the TIO

Table 4.4.3: Confirmed ACIF code breaches, 2004–05 and 2005–06

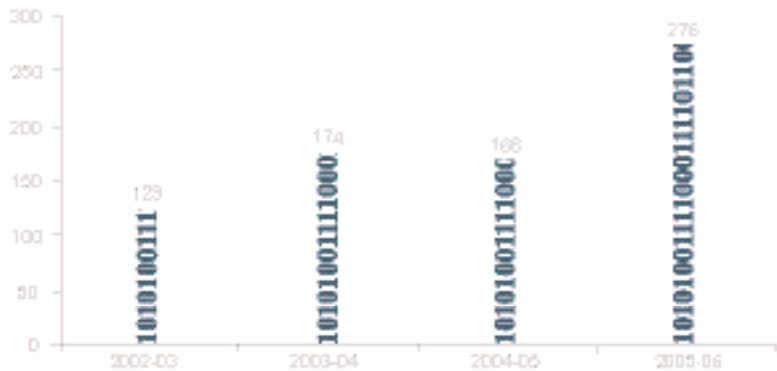
Code	ACIF C547:2004 Complaint Handling Code	ACIF C542: 2003 Billing Code	ACIF C541: 2003 Credit Management Code	ACIF C546: 2001 Customer Transfer Code	ACIF C521: 2004 Customer Information on Prices, Terms and Conditions
2005–06					
Total breaches	276	123	120	78	30
Main CSPs in breach					
Telstra	130	47	49	16	12
Optus	28	16	16	n/a	n/a
'3'	24	n/a	13	n/a	n/a
AAPT	12	n/a	n/a	n/a	n/a
People Telecommunications	10	n/a	n/a	n/a	n/a
2004–05					
Code	ACIF C547:2004 Complaint Handling Code	ACIF C542: 2003 Billing Code	ACIF C541: 2003 Credit Management Code	ACIF C546: 2001 Customer Transfer Code	ACIF C521: 2004 Customer Information on Prices, Terms and Conditions
Total breaches	168	122	131	64	32

Source: TIO

Complaint Handling Code

During 2005–06, the TIO recorded 276 confirmed code breaches, up from 168 in 2004–05. The highest numbers of breaches were recorded against Telstra (130), Optus (28), ‘3’ (24) AAPT (12) and People Telecommunications (10).

Figure 4.4.1: Confirmed breaches of the Complaint Handling Code, 2002–03 to 2005–06



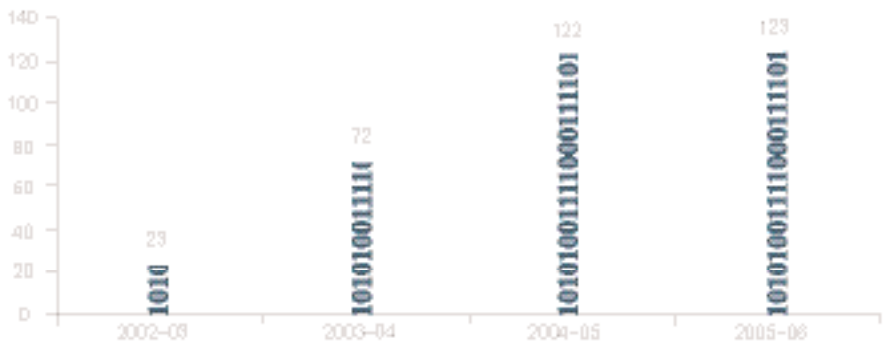
Source: TIO

In addition, there were 9,385 possible breaches of this code recorded by the TIO, up from 1,112 potential and possible breaches in 2004–05, reflecting new recording practices by the TIO.

Billing Code

The TIO recorded 123 confirmed breaches of the Billing Code in 2005–06, compared with 122 confirmed and established breaches in 2004–05 and 72 in 2003–04. The highest numbers of breaches concerned Telstra (47) and Optus (16).

Figure 4.4.2: Confirmed breaches of the Billing Code, 2002–03 to 2005–06



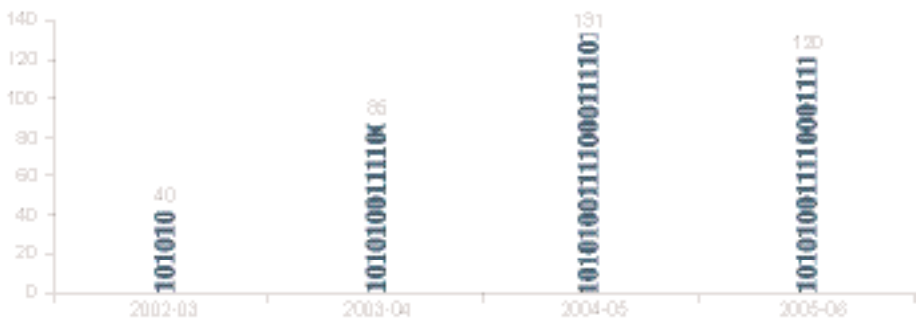
Source: TIO

In addition, there were 5,217 possible breaches of the Billing Code recorded by the TIO, up from 1,341 potential and possible breaches in 2004–05.

Credit Management Code

During 2005–06, the TIO recorded 120 confirmed breaches of the Credit Management Code, down from 131 in 2004–05. The highest numbers of breaches were recorded against Telstra (49), Optus (16) and ‘3’ (13).

Figure 4.4.3: Confirmed breaches of the Credit Management Code, 2002–03 to 2005–06



Source: TIO

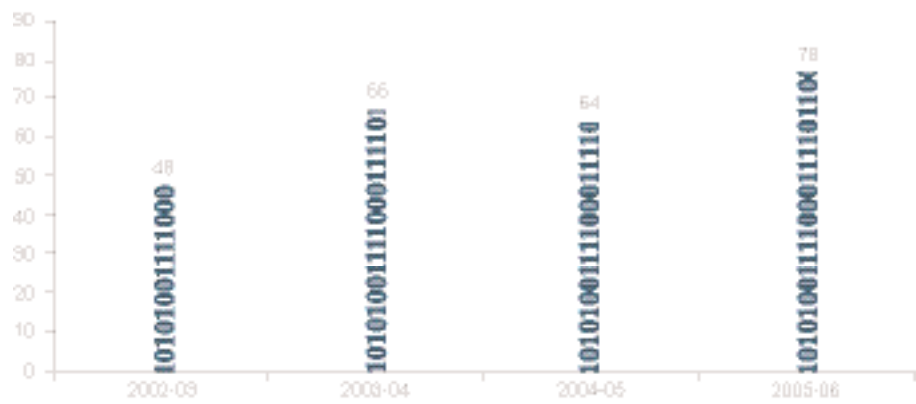
There were also 2,080 possible breaches of this code recorded by the TIO, up from 1,341 potential and possible breaches in 2004–05.

A review of the Credit Management Code occurred in 2005–06 as a solution to the issues surrounding credit management. A revised Credit Management Code was registered in April 2006, with a six-month delayed implementation period. The above complaint and breach statistics reflect compliance with the 2003 code, not the 2006 code.

Customer Transfer Code

The TIO recorded 78 confirmed breaches of the Customer Transfer Code in 2005–06, up from 64 confirmed or established breaches in 2004–05. The highest number of breaches was recorded against Telstra (16).

Figure 4.4.4: Confirmed breaches of the Customer Transfer Code, 2002–03 to 2005–06



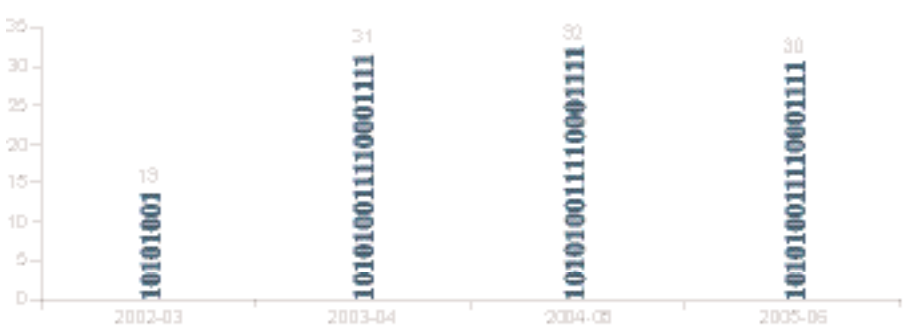
Source: TIO

There were also 1,504 possible breaches of this code recorded, up from 1,162 potential and possible breaches in 2004–05.

Prices, Terms and Conditions Code

The TIO recorded 30 confirmed breaches of the Prices, Terms and Conditions Code in 2005–06, compared with 32 established or confirmed breaches in 2004–05. The highest number of breaches was recorded against Telstra (12).

Figure 4.4.5: Confirmed breaches of the Customer Information on Prices, Terms and Conditions Code, 2002–03 to 2005–06



Source: TIO

There were also 1,326 possible breaches of the code recorded in 2005–06, up from 1,162 potential and possible breaches in 2004–05.

Appendix 4.5: Broadcasting code complaints and investigations

ACMA is required to investigate complaints about broadcasters that relate to possible non-compliance with a code of practice if the complainants:

- have directed their complaints directly to the broadcaster in the first instance; and
- consider the broadcaster’s response to be inadequate; or
- have not received a response within 60 days.

Complaints about alleged breaches of the legislation or of licence conditions may be made directly to ACMA. ACMA is required to investigate these complaints.

Table 4.5.1: ACMA broadcasting complaints and investigations, 2001-02 to 2005-06

	2001-02	2002-03	2003-04	2004-05	2005-06
No. of telephone complaints	n/a	1,574	1,999	2,219	578
No. of written complaints	575	586	699	684	737
No. of investigations completed	163	106	106	153	142
No. of investigations resulting in breach finding	91	50	27	59	34
No. of investigations resulting in non-breach finding	72	56	79	94	108

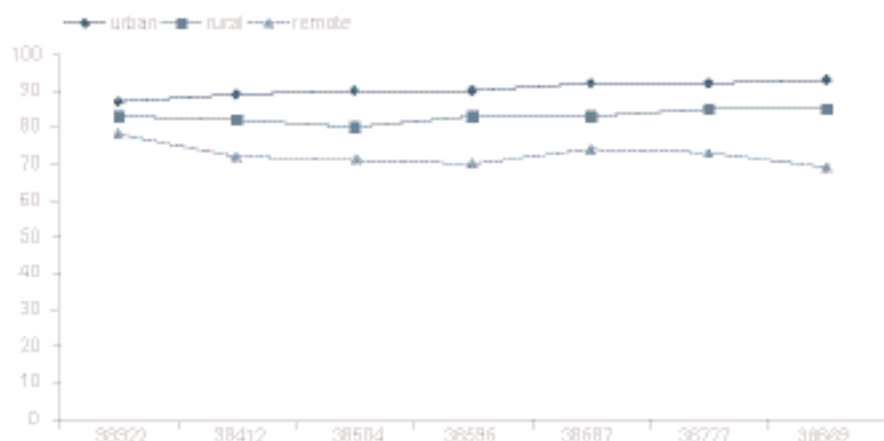
Source: ACMA

Appendix 5.1: Public payphone data

Payphone fault repair performance

Timely repair of payphone faults is an important aspect of the USO provision of payphone services.

Figure 5.1.1: Telstra payphone fault repair quarterly performance – percentage completed on time, December 2004 to June 2006



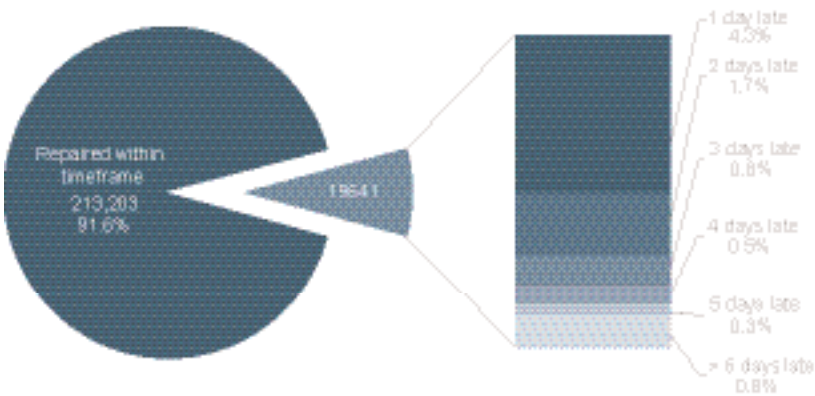
Source: Telstra

During the June 2006 quarter, Telstra repaired 93 per cent of urban payphone faults on time. This represents an improvement of three percentage points compared with the same quarter in the previous year. Telstra repaired 85 per cent of payphone faults on time in rural areas in the June 2006 quarter. This represents an increase of five percentage points in performance compared with the equivalent quarter in 2005. Similarly, during the June 2006 quarter, Telstra repaired 69 per cent of remote area payphone faults on time, which is two percentage points lower than in the June 2005 quarter.

During 2005–06, Telstra repaired 89 per cent (286,056) of the 322,089 payphone faults nationally within the required timeframes. Ninety-eight per cent (316,839) of all faults were repaired within five working days of required timeframes. Figures 5.1.2 to 5.1.4 depict performance for urban, rural and remote areas against these parameters.

Urban areas

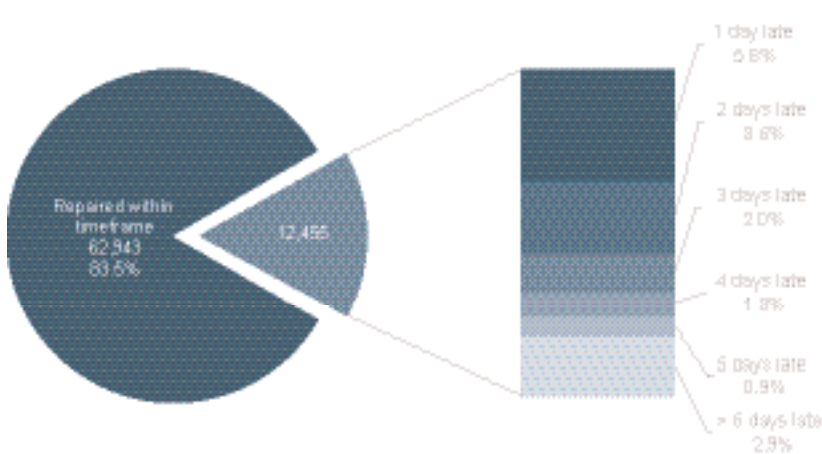
Figure 5.1.2: Telstra payphone fault repair timeliness in urban areas, 2005–06



Note: Prescribed timeframe for repair in urban areas is one working day.
Source: Telstra

Rural areas

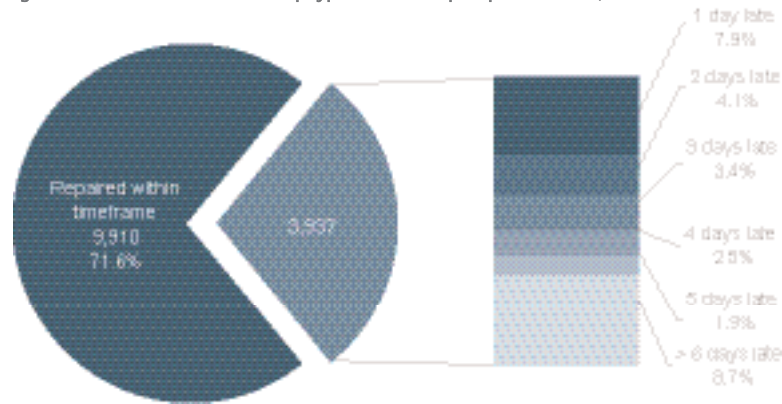
Figure 5.1.3: Telstra payphone fault repair performance in rural areas, 2005–06



Note: Prescribed timeframe for repair in rural areas is two working days.
Source: Telstra

Remote areas

Figure 5.1.4: Telstra remote area payphone fault repair performance, 2005–06



Note: Prescribed timeframe for repair in remote areas is three working days.
Source: Telstra

Installation of payphones

Under the universal service obligation, members of the public or communities can apply for installation of a Telstra-operated payphone in a public place. If the application is approved, Telstra’s Standard Marketing Plan (SMP) provides that Telstra will aim to install the payphone within three months in urban and major rural areas and in any case where the necessary infrastructure is already available at the proposed site.

Table 5.1.1 sets out the prescribed timeframes and Telstra’s installation performance where the necessary infrastructure is not readily available and Telstra reports against these parameters. The SMP prescribes these timeframes on a ‘best endeavours’ basis and outlines a number of variables that may prevent Telstra from achieving its indicated timeframe. In such cases, Telstra is required to advise the customer of the reason for the delay and a date for installation, based on the individual circumstances that apply.

During the reporting period, there were 322 applications for installation of a new Telstra-operated payphone, of which 31 per cent were accepted.

Table 5.1.1: Telstra’s performance for installation of new payphones at sites where infrastructure is not readily available, 2004–05 and 2005–06

Installation timeframes (prescribed in Telstra’s SMP section 3.6.1.2)			2004–05		2005–06	
			Number of installations		Number of installations	
Area	Population	Timeframe	On-time installations	Total installations	On-time installations	Total installations
Urban and major rural	> 2,501	3 months	77	92	51	67
Minor rural	200–2,500	6 months	16	17	12	14
Remote	< 200	9 months	19	19	3	3

Source: Telstra

Appendix 5.2: Special digital data service

Special digital data service obligation data

Table 5.2.1 shows Telstra's performance in providing SDDS connections. With only nine connections requested in 2005–06, the drop to 67 per cent provided within time-frames may not represent a decline in performance.

Table 5.2.1: Special Digital Data Services connected, 2003–04 to 2005–06

	Timeframe (working days)	2003–04			2004–05			2005–06		
		% met	Number met	Number con- nected	% met	Number met	Number con- nected	% met	Number met	Number con- nected
Urban	20	97	68	70	76	17	23	66	2	3
Major rural	20	93	27	29	87	8	9	0	0	1
Minor rural	20	82	160	195	92	31	34	80	4	5
Remote	30	100	13	13	100	3	3	n/a	n/a	0
Total		87	268	307	85	59	69	67	6	9

n/a: not applicable

Source: Telstra

Table 5.2.2 contains the number of services supplied by type of area over the past four years, indicating that there has been a steady decline in the number of SDDS connections during that period. Telstra suggests this drop is due to two key government initiatives, the Higher Bandwidth Incentive Scheme and Broadband Connect, both offering subsidies on satellite and alternative services.

Table 5.2.2: Special Digital Data Services supplied by Telstra, 2002–03 to 2005–06

	2002–03	2003–04	2004–05	2005–06
Urban	178	70	23	3
Rural	301	224	43	6
Remote	9	13	3	0
Total	488	307	69	9

Source: Telstra

Appendix 5.3: Customer Service Guarantee data

The Customer Service Guarantee (CSG) scheme sets performance standards for the provision of the standard telephone service and provides for compensation to customers where performance requirements are not met. The CSG is provided for under Part 5 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*, in conjunction with the *Telecommunications (Customer Service Guarantee) Standard 2000* and the *Telecommunications (Performance Standards) Determination 2002*.

CSG-eligible services

There has been an overall reduction in the number of CSG-eligible services in 2005–06.

Table 5.3.1: Customer Service Guarantee service numbers, 2002-03 to 2005-06

	2002-03	2003-04	2004-05	2005-06
AAPT	271	325	541	583
Optus	1,187	1,144	1,111	1,129
Telstra	7,615	7,281	6,930	6,740
Other	396	580	375	256

Numbers in thousands
Source: CSP data

CSG in-place service connections

The CSG timeframes for in-place service connections are:

- urban areas—two working days
- major rural areas—two working days
- minor rural areas—two working days
- remote areas—two working days

Table 5.3.2: Customer Service Guarantee—percentage and number of in-place service connections provided within CSG Standard timeframes, 2005–06

	AAPT	Optus*	Primus	Telstra
%				
Urban areas	98.5	98.4	99.1	97.5
Major rural areas	98.5	n/a	97.9	97.3
Minor rural areas	98.0	n/a	100.0	96.9
Remote areas	100.0	n/a	n/a	95.1
All areas	98.5	98.4	99.1	97.4
Number				
Urban areas	44,280	18,032	17,639	815,084
Major rural areas	11,793	n/a	276	96,887
Minor rural areas	2,554	n/a	15	106,089
Remote areas	68	n/a	n/a	5,462
All areas	58,695	18,032	17,930	1,023,522

*Optus data covers its own urban network only and excludes reseller activity on other networks.

n/a: not applicable

Source: CSP data

CSG new service connections

Table 5.3.3: Customer Service Guarantee—percentage and number of new service connections provided within CSG Standard timeframes, 2005–06

	AAPT	Optus*	Primus	Telstra
%				
Urban areas	97.9	99.2	88.5	95.2
Major rural areas	97.5	n/a	81.2	95.8
Minor rural areas	96.9	n/a	100.0	94.5
Remote areas	99.3	n/a	n/a	93.1
All areas	97.8	99.2	88.3	95.1
Number				
Urban areas	55,420	64,819	1,336	455,233
Major rural areas	15,191	n/a	56	48,954
Minor rural areas	3,216	n/a	9	53,444
Remote areas	136	n/a	n/a	2,789
All areas	73,963	64,819	1,401	560,420

* Optus data covers its own urban network only and excludes reseller activity on other networks.

n/a: not applicable

Source: CSP data

CSG fault repairs

Table 5.3.4: Customer Service Guarantee—percentage and number of faults repaired within CSG Standard timeframes, 2005–06

	AAPT	Optus	Telstra
%			
Urban areas	97.1	95.2	93.4
Rural areas	95.0	89.3	92.3
Remote areas	95.1	87.7	92.7
All areas	96.6	95.1	93.0
Number			
Urban areas	55,653	136,459	567,850
Rural areas	16,843	2,697	262,948
Remote areas	156	100	5,818
All areas	72,652	139,256	836,616

Primus, through no fault of its own, was unable to supply data by publication deadline.

Source: CSP data

CSG appointments

Table 5.3.5: Customer Service Guarantee—appointment-keeping performance, 2005–06

	Optus	Telstra
Total number	96,438	560,087
Number kept	94,262	536,868
Number missed	2,176	23,219
Percentage missed	2.3	4.1

AAPT did not provide appointment-keeping data. Primus, through no fault of its own, was unable to supply data by publication deadline.

Source: CSP data

CSG out of timeframe connections

Table 5.3.6: Customer Service Guarantee—number of services provided outside the CSG Standard timeframes, 2005–06

	AAPT	Optus*	Telstra
Appointments	not provided	2,176	23,219
In-place connections	880	284	27,170
New service connections	1,697	554	28,592
Fault repairs	2,547	7,246	62,524
Connections + repairs	5,124	8,084	118,286

**Optus data covers its own urban network only and excludes reseller activity on other networks.*

Primus, through no fault of its own, was unable to supply data by publication deadline.

Source: CSP data

Appendix 5.4: Network Reliability Framework data

The Network Reliability Framework (NRF) was developed in response to the findings and recommendations of the Telecommunications Service Inquiry in its 2000 report, *Connecting Australia*. The NRF is a three-tier framework to improve the reliability of Telstra’s telephone services at both the network and individual levels. It applies to all Telstra Customer Service Guarantee (CSG) services, that is, standard telephone services provided to customers with five lines or less.

The NRF was brought into effect on 1 January 2003 by licence conditions placed on Telstra by the *Carrier Licence Conditions (Telstra Corporation Limited) Declaration 1997 (Amendment No. 4 of 2002)*.

Level 1 of the NRF requires Telstra to publish monthly data showing the reliability of services on a national basis and in 44 different regions covering the whole of Australia. Telstra’s national Level 1 performance data is presented in the tables below. This level of the NRF is designed to inform the public about the reliability of services generally.

The reliability measures under Level 1 are:

- Level 1(a)—the percentage of CSG services that did not experience a fault during the month; and
- Level 1(b)—the percentage of time in a month that CSG services on average are unavailable.

ACMA also uses data provided under Level 1 of the NRF to calculate:

- Level 1(c)—the average time (in hours) that fault-affected CSG services were unavailable in the month.

Table 5.4.1: Level 1(a) – percentage of Telstra CSG services that did not experience a fault, 2003–06

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003	99.12	98.98	99.00	99.08	98.97	99.15	99.12	99.20	99.21	99.17	99.14	99.07
2004	99.05	98.88	99.01	99.15	99.16	99.15	99.22	99.14	99.17	99.09	99.01	98.92
2005	99.05	98.82	99.04	99.07	99.11	99.11	99.03	99.07	99.03	98.96	98.78	98.80
2006	98.76	98.72	98.79	99.04	98.94	99.05						

Source: Telstra NRF Level 1 reports

Table 5.4.2: Level 1(b) – average percentage of time Telstra CSG services were available, 2003-06

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003	99.94	99.93	99.92	99.92	99.92	99.95	99.95	99.96	99.96	99.95	99.95	99.93
2004	99.93	99.90	99.92	99.94	99.95	99.94	99.95	99.95	99.95	99.94	99.93	99.92
2005	99.93	99.91	99.93	99.94	99.94	99.94	99.94	99.94	99.94	99.94	99.92	99.91
2006	99.91	99.91	99.92	99.93	99.93	99.94						

Source: Telstra NRF Level 1 reports

Table 5.4.3: Level 1(c) – average time (in hours) that fault-affected Telstra CSG services were unavailable, 2003-06

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003	49	51	61	62	56	47	44	39	41	42	43	60
2004	54	67	64	55	48	49	44	45	47	50	53	55
2005	53	59	53	50	48	50	49	47	45	46	51	53
2006	55	50	50	53	49	50						

Source: Telstra NRF Level 1 reports

Under Level 2 of the NRF, Telstra is required to report to ACMA each month on exchange service areas (ESAs) in which a specified number of services (from two to five services depending on the total number of services in the ESA) experience at least one fault per month for two consecutive months. ACMA will then use this information to decide whether further remediation action is required to improve reliability in those areas. Table 5.4.4 shows how many of Australia's 5,058 ESAs were reported each month for breaching the Level 2 thresholds. There was no Level 2 report in January 2003 because Level 2 thresholds are based on a rolling period of two calendar months.

Table 5.4.4: Level 2 fault thresholds

Where the ESA has:	Telstra must report the ESA if:
1 to 100 services	Two or more services have at least one fault in each of the two preceding months
101 to 1,000 services	Three or more services have at least one fault in each of the two preceding months
1,001 to 10,000 services	Four or more services have at least one fault in each of the two preceding months
10,001 or more services	Five or more services have at least one fault in each of the two preceding months

Source: ACMA

Table 5.4.5: Level 2 – number of ESAs that have breached the Level 2 fault thresholds, 2003–06

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003		208	296	225	229	180	127	124	108	121	142	194
2004	267	303	313	222	153	138	148	116	115	143	241	306
2005	327	332	295	242	211	166	189	156	176	196	276	364
2006	361	371	331	260	235	178						

Source: Telstra NRF Level 2 reports

Under Level 3 of the NRF, Telstra is required to report to ACMA any CSG services that experience:

- four or more faults in 60 days—Level 3(a); or
- five or more faults in 365 days—Level 3(b).

ACMA examines the adequacy and appropriateness of Telstra’s actions for improving performance and, where necessary, requests Telstra to further remediate the services reported. Level 3(a) and Level 3(b) thresholds are based on a rolling period of 60 days and 365 days respectively. For this reason, the tables below do not include the number of Level 3(a) reports before April 2003, or the number of Level 3(b) reports before January 2004.

Table 5.4.6: Level 3(a) – number of Telstra CSG services with four or more faults in a rolling 60-day period, 2003–06

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003				26	17	10	15	13	12	20	18	26
2004	35	42	36	15	12	9	12	13	17	16	25	26
2005	40	48	46	39	36	37	30	25	24	23	26	45
2006	62	37	65	34	42	35						

Source: Telstra NRF Level 3 reports

Table 5.4.7: Level 3(b) – number of Telstra CSG services with five or more faults in a rolling 365-day period, 2004–06

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004	222	271	225	105	98	97	125	130	125	133	159	185
2005	203	167	153	146	164	146	125	140	114	163	190	254
2006	247	202	234	178	223	167						

Source: Telstra NRF Level 3 reports

Network Reliability Framework review

ACMA (formerly the ACA) conducted a review of the NRF in 2004 and 2005 to examine:

- whether it had been successfully implemented;
- the extent to which the NRF objectives had been met; and
- whether there were changes which could be made to better achieve the NRF objectives.

The NRF review recommended that cable runs be the focus of performance monitoring and remediation under Level 2 of the NRF to provide more precise targeting of poorly performing parts of the network. In September 2005, the government accepted ACMA's recommendations for changes to Level 2 of the NRF, including a requirement that Telstra must undertake remediation work on a minimum of 480 of the worst performing cable runs each year.

Discussions between Telstra, ACMA and DCITA on the implementation of recommended changes to the NRF licence conditions were continuing at the end of the reporting period.

Appendix 5.5: Services for people with disabilities

National Relay Service data

The National Relay Service (NRS) enables people with a hearing or speech impairment to access a standard telephone service (STS) on terms, and in circumstances, that are comparable to other Australians. The NRS is provided under contract to the Commonwealth by the Australian Communication Exchange Limited (ACE).

Table 5.5.1: Calls to the National Relay Service, 2001–02 to 2005–06

	2001–02	2002–03	2003–04	2004–05	2005–06
Calls to the NRS	630,970	654,185	627,275	602,617	619,366
Outbound calls	613,127	659,521	670,684	657,262	664,885
Relayed call minutes	3,464,168	3,741,675	3,780,741	3,641,559	3,408,420

Source: NRS

Table 5.5.2: National Relay Service – inbound call types, 2001–02 to 2005–06

	2001–02	2002–03	2003–04	2004–05	2005–06
Voice	19.50%	19.70%	20.10%	20.70%	18.00%
Voice carry over	12.00%	13.10%	15.00%	16.80%	18.10%
Speech to speech relay	0.60%	0.90%	1.30%	1.90%	2.90%
Modem	0.50%	0.60%	0.80%	1.00%	0.90%
Hearing carry over	0.40%	0.40%	0.80%	0.80%	0.70%
TTY	67.00%	65.00%	62.00%	58.80%	59.40%

Source: NRS

Table 5.5.3: National Relay Service – outbound call types, 2001–02 to 2005–06

	2001–02	2002–03	2003–04	2004–05	2005–06
Voice	92.81%	89.70%	88.30%	88.30%	88.70%
Voice carry over	1.94%	2.60%	3.40%	4.10%	4.30%
Speech to speech relay	0.68%	1.00%	1.50%	2.00%	2.40%
Hearing carry over	0.04%	0.10%	0.20%	0.20%	0.20%
TTY	4.53%	6.00%	6.20%	5.30%	4.30%

Source: NRS

Disability equipment supplied by Telstra, 2004–05 and 2005–06

The *Disability Discrimination Act 1992* requires service providers that supply equipment as a part of a service to ensure the equipment allows equivalent access for consumers with a disability. Obligations within the telecommunications legislation require the USO provider (Telstra) to:

- supply equipment to enable access to the STS for people with a disability; or
- provide access to a service equivalent to the STS for people with a disability for whom the use of a voice service is impractical, including the provision of specialised customer equipment.

Table 5.5.4: Quantity of disability equipment supplied by type, 2004–05 to 2005–06

	2004–05	2005–06
Additional socket	280	203
Cochlear implant (2 models)	51	45
Cordless phone (Nomad F2400)	274	1,528
Double adaptor	1,365	1,256
General purpose alarm	2,175	2,054
Hands-free telephone	298	33
Hold-a-phone	1	0
Modem	3	0
Standard rental telephone (T400, old model, on request)	3	2
TTY (3 models)	437	286
Telebraille/braille TTY	4	0
TTY large visual display	7	0
Visual signal alert	99	65
Voice aid phone	177	0
Volume control telephone	4,658	3,068

Source: Telstra

Appendix 6.1: Disclosure of personal information

Personal information that is protected under Part 13 of the *Telecommunications Act 1997* (the Act) may be disclosed for a specified range of law enforcement, emergency, investigation, business and other purposes. Carriers and CSPs report annually to ACMA on the numbers of disclosures made under Part 13 of the Act.

Table 6.1.1: Disclosures to support law enforcement activities, 2001–02 to 2005–06

Reason for disclosure	(Sub)section of <i>Tele- communications Act 1997</i>	Number of disclosures				
		2001–02	2002–03	2003–04	2004–05	2005–06
Authorised by or under law	280	2,849	3,109	3,745	13,336	13,634
Made as a witness under summons	281	57	59	70	80	69
For the enforcement of criminal law – not certified	282(1)	394,876	326,296	333,927	400,100	396,430
For the enforcement of law imposing pecuniary penalty or protection of public revenue – not certified	282(2)	63,575	74,466	74,102	15,654	14,240
For the enforcement of criminal law – certified	282(3)	194,438	224,757	236,546	280,062	285,206
For the enforcement of law imposing pecuniary penalty or protection of public revenue – certified	282(4)	4,282	4,402	5,380	1,776	1,530
To protect public revenue – certified	282(5)	17,849	21,910	22,367	88,799	89,325
To assist the ACA/ACMA	284(1)	10	29	3	13	13
To assist the ACCC	284(2)	22	58	18	191	187
To assist the TIO	284(3)	5,373	5,671	9,483	5,927	5,877
To avert a threat to a person's life or health	287	1,527	1,680	2,628	4,104	4,085
Communications for maritime purposes	288	1	–	–	–	1
With the knowledge or consent of the person concerned	289	4,539	3,517	12,280	75,422	133,765
In circumstances prescribed in the <i>Telecommunications Regulations 2001</i>	292	16	555	317	2	5
Its use is connected with an exempt disclosure	293	1	–	5	–	–
Total		689,415	666,509	700,871	885,466	944,367

Source: *Telecommunications carriers and CSPs*

Appendix 6.2: Emergency call service data

Emergency call service – call volumes and answering times

The *Telecommunications (Emergency Call Service) Determination 2002* (the Determination) is made under subsection 147(1) of the *Telecommunications (Consumer Protection and Services Standards) Act 1999*.

Table 6.2.1: Emergency call origin by service type on 000 and 112, 2001–02 to 2005–06

	2001–02	2002–03	2003–04	2004–05	2005–06
Facsimile	155,151	129,948	192,054	49,328	27,741
Payphone	944,331	847,295	782,767	526,521	555,624
Other fixed	4,774,691	4,587,111	4,531,340	3,292,050	3,620,865
Mobile	3,835,203	5,768,344	7,262,227	6,912,810	7,274,901
Total	9,709,376	11,332,698	12,768,388	10,780,709	11,479,131

Source: emergency call person (Telstra)

The Determination sets out the call answering times required of the Telstra emergency call person when answering emergency calls to 000 and 112 as follows:

- 85 per cent of emergency calls are to be answered within five seconds; and
- 95 per cent of those calls answered within 10 seconds.

Table 6.2.2: Emergency call service call volumes and call answering times, 2001–02 to 2005–06

	2001–02	2002–03	2003–04	2004–05	2005–06
Total number of calls offered	9,709,376	11,332,701	12,741,247	10,807,627	11,588,777
Total number of calls answered	8,820,052	10,630,161	11,905,281	10,113,882	10,625,171
Percentage of calls answered	90.8	93.8	93.4	93.6	91.7
Percentage of answered calls answered in 5 seconds or less	92.6	95.3	96.1	97.0	96.9
Percentage of answered calls answered in 10 seconds or less	98.1	98.9	99.0	99.0	98.9
Percentage of answered calls answered in greater than 10 seconds	1.9	1.1	1.0	1.0	1.1
Percentage of offered calls transferred to an ESO	59.0	35.4	32.6	39	39.4
Percentage of offered calls from mobile phones	39.5	50.9	57.0	64.0	62.8

Source: emergency call person (Telstra)

Emergency call service – termination points for 000 and 112

Telstra provides ACMA with data that disaggregates the calls to 000 and 112 received according to the outcome of the calls.

Table 6.2.3: Emergency call services termination points for 000 and 112, 2003–04 to 2005–06

	2003–04		2004–05		2005–06	
	No.	%	No.	%	No.	%
Caller no response (CNR) calls terminated by interactive voice response (IVR)	5,449,511	42.8	4,241,385	39.2	3,706,705	32
CNR calls connected to police through IVR	145,397	1.1	163,330	1.5	179,409	1.5
Aborted by caller before answered	835,966	6.6	693,745	6.4	963,606	8.3
Aborted after answered (non-CNR)	2,294,635	18	1,512,737	14.0	2,167,537	18.7
Calls transferred to ESOs	4,015,738	31.5	4,196,430	38.8	4,571,520	39.5
Total	12,741,247	100	10,807,627	100	11,588,777	100

Source: emergency call person (Telstra)

Appendix 6.3: Priority assistance data

Priority service – carrier performance

Telstra is required by clause 19 of the *Carriers Licence Conditions (Telstra Corporation Limited) Declaration 1997*, to provide priority assistance services for people at risk of a rapid, life-threatening deterioration in a diagnosed life-threatening medical condition. AAPT and Primus voluntarily offer priority assistance services under the ACIF *Priority Assistance for Life Threatening Medical Conditions* industry code.

The following tables detail:

- numbers of priority assistance customers;
- volumes and timeframes relating to requests for new connections of priority services; and
- volumes and timeframes relating to fault restorations of priority services.

Table 6.3.1: Priority assistance – connection requests, 2003–04 to 2005–06

	2003–04		2004–05		2005–06	
	No.	% completed on time	No.	% completed on time	No.	% completed on time
Telstra						
National	82,245	96	69,569	96	78,210	95
Urban	60,143	97	50,651	97	57,220	96
Rural	21,481	95	18,291	96	20,391	93
Remote	621	92	627	94	599	89
Primus						
National	n/a	n/a	1028	63	727	55
Urban	n/a	n/a	999	63	707	55
Rural	n/a	n/a	28	57	16	63
Remote	n/a	n/a	1	100	0	n/a
AAPT						
National	n/a	n/a	n/a	n/a	273	76
Urban	n/a	n/a	n/a	n/a	184	75
Rural	n/a	n/a	n/a	n/a	89	78
Remote	n/a	n/a	n/a	n/a	0	n/a

n/a: not applicable

Source: Telstra, Primus and AAPT

Table 6.3.2: Priority assistance – fault restoration requests, 2003–04 to 2005–06

	2003–04		2004–05		2005–06	
	No.	% completed on time	No.	% completed on time	No.	% completed on time
Telstra						
National	95,822	95	104,993	95	149,742	94
Urban	63,275	96	69,568	96	101,433	96
Rural	31,817	95	34,721	93	47,333	92
Remote	730	94	704	91	976	90
Primus						
National	n/a	n/a	2,059	n/a	1,717	n/a
Urban	n/a	n/a	n/a	n/a	n/a	n/a
Rural	n/a	n/a	n/a	n/a	n/a	n/a
Remote	n/a	n/a	n/a	n/a	n/a	n/a
AAPT						
National	n/a	n/a	n/a	n/a	2,831	78
Urban	n/a	n/a	n/a	n/a	1,803	81
Rural	n/a	n/a	n/a	n/a	1,018	72
Remote	n/a	n/a	n/a	n/a	10	90

n/a: not applicable

Source: Telstra, Primus and AAPT

Appendix 6.4: Internet content investigation data

Established under Schedule 5 to the *Broadcasting Services Act 1992*, ACMA's internet complaints hotline handles complaints about prohibited or potentially prohibited internet content.

A summary of complaints investigated by ACMA over the life of the scheme—1 January 2000 to 30 June 2006—is set out below.

Table 6.4.1: Internet content investigations, 1 January 2000 to 30 June 2006

	01/01/00– 30/06/00*	2000– 01	2001– 02	2002– 03	2003– 04	2004– 05	2005– 06	Total
Complaints received ¹	201	505	622	683	1,107	1,145	826	5,089
Investigations completed	160	406	499	516	810	814	638	3,843
Investigations terminated ²	37	85	130	160	175	202	117	906
Complaints not investigated ³	2	0	0	0	95	149	83	329
Investigations leading to finding of prohibited content	93	237	373	381	548	575	422	2,629
Items actioned (Australian hosted)	62	104	87	26	7	48	18	352
Items actioned (overseas hosted)	94	289	391	570	701	857	706	3,608
Items referred to state or territory police force	44	68	27	6	2	25	10	182
Items referred to overseas police force or INHOPE hotline	104	359	182	173	412	582	446	2,258

* As the scheme commenced on 1 January 2000, statistics for this period are for half a financial year (from 1 January to 30 June 2000) only.

Notes:

¹ ACMA investigates all valid complaints about prohibited or potentially prohibited internet content. Some complaints relate to multiple items of content. For example, where a complaint is made about multiple postings within a single newsgroup, ACMA will investigate each of the postings. Each posting is regarded as one 'item' of content.

² Investigations are terminated when there is a lack of information to proceed with the investigation (for example, ACMA is unable to locate the content based on information provided by the complainant).

³ A complaint is not investigated by ACMA if it: (a) does not meet the statutory requirements (for example, no internet address is provided or the complainant is not an Australian resident); or (b) is deemed to be frivolous, vexatious, not made in good faith or designed to undermine the operation of the scheme; or (c) concerns matters (for example, an electronic virus) not within the scope of Schedule 5.

Appendix 7.1: Telecommunications cabling data

Telecommunications cable installed overhead and underground

ACMA is required, under clause 50 of Schedule 3 to the *Telecommunications Act 1997*, to monitor and report to the Minister on carriers' efforts to place facilities underground.

ACMA seeks information from licensed carriers that were considered likely to own or have responsibility for cable networks:

- in 2005–06 information was sought from 33 carriers, with 31 responses received; and
- in 2004–05, information was sought from 27 carriers, with 25 responses received.

For both reporting periods, carriers were asked to provide data on the location and length of cable installed overhead and underground. Telstra provided data in relation to copper cable installations only, advising ACMA that data is not provided for optical fibre cable or hybrid fibre coaxial cable, which it does not install overhead.

Table 7.1.1: Telecommunications cabling activity, 2004–05 and 2005–06

State/territory	Underground (km)		Overhead (km)	
	2004–05	2005–06	2004–05	2005–06
New South Wales	2,947	3,575	290	82
Victoria	2,972	2,286	125	49
Queensland	2,497	3,356	54	81
South Australia	691	727	112	169
Western Australia	1,476	1,651	6	6
Northern Territory	120	179	0	0
Tasmania	318	257	0	1
ACT	186	155	22	8
Total	11,207	12,186	609	396

Source: ACMA data request to telecommunications carriers

Appendix 8.1: Telecommunications services in remote Indigenous communities

The Telecommunications Action Plan for Remote Indigenous Communities (TAPRIC) database contains information collected by Telstra on the telecommunications services available in over 1,000 community-managed discrete remote Indigenous communities. Table 8.1.1 details the availability of telecommunications services in Indigenous communities by size of community and as a proportion of total communities reported by Telstra.

Table 8.1.1: Communities listed in TAPRIC database – population information and community access to STS, payphones and mobile coverage, June 2006

Community characteristic	Total communities reported (%)
Population	
Communities with population under 10	24.4
Communities with population of 10–19	21.2
Communities with population of 20–49	23.6
Communities with population of 50–99	9.5
Communities with population of 100–499	17.5
Communities with population of 500 or more	3.8
STS (fixed or home telephone)	
Communities with access to at least one STS	57.7
Communities with population under 10 with no STS	16.2
Communities with population of 10–19 with no STS	12.9
Communities with population of 20–49 with no STS	11.1
Communities with population of 50–99 with no STS	1.6
Communities with population of 100–499 with no STS	0.5
Communities with population of 500 or more with no STS	0.0

Table 8.1.1: Communities listed in TAPRIC database – population information and community access to STS, payphones and mobile coverage, June 2006 (continued)

Community characteristic	Total communities reported (%)
Payphones	
Communities with access to at least one payphone	52.5
Communities with population under 10 with no payphones	19.7
Communities with population of 10–19 with no payphones	15.0
Communities with population of 20–49 with no payphones	8.5
Communities with population of 50–99 with no payphones	1.9
Communities with population of 100–499 with no payphones	2.3
Communities with population of 500 or more with no payphones	0.2
STS and payphones	
Communities with access to either STS or payphones	71.0
Communities with no access to either STS or payphones	29.0
Mobile services	
Communities with access to terrestrial mobile coverage	26.2
Communities with no access to terrestrial mobile coverage	72.1

Sources: Population data – 2001 ABS report on Housing Infrastructure in Aboriginal and Torres Strait Islander Communities (the CHINS survey); Telecommunications data – Telstra, June 2006

Appendix 9.1: Expenditure on Australian drama programs by the pay TV sector

Under Division 2A of Part 7 of the *Broadcasting Services Act 1992*, subscription (pay) television drama services are required to spend at least 10 per cent of their total program expenditure on new Australian or New Zealand drama programs.

Table 9.1.1: Aggregate expenditure by subscription TV drama services on new Australian drama, 1999–2000 to 2004–05

	2004–05	2003–04	2002–03	2001–02	2000–01	1999–2000
New eligible drama expenditure requirement	\$18,982,331	\$18,863,100	\$19,932,688	\$20,588,077	\$19,498,396	\$12,707,159
The year's new eligible drama expenditure (NEDE)	\$15,925,986	\$17,707,528	\$19,130,511	\$21,004,080	\$18,218,591	\$7,609,289
NEDE as a percentage of the requirement	83.9	93.9	95.2	102	93.4	60
Expenditure nominated to make up previous year's shortfall	\$10,390,475	\$8,937,272	\$8,246,506	\$7,804,142	\$5,488,289	None required
Expenditure nominated toward current year requirement*	\$5,390,027	\$8,472,625	\$10,965,030	\$13,199,938	\$12,730,302	\$7,609,289
Current year obligation to be acquitted next financial year	\$13,592,304	\$10,390,475	\$8,967,654	\$8,246,506	\$7,804,142	\$5,488,289
Current year shortfall as a percentage of requirement	71.6	55.1	45.7	40	40	40

*The total of the two 'nominated' amounts does not add up to the 'year's NEDE' amount because some channel providers spent more than the 10 per cent requirement. Up to 2005–06, the NEDE scheme did not allow any expenditure that was excess to the current year and past year obligation to be carried forward for nomination in the next year. This rule was reversed when the legislation was amended in June 2005 and takes effect from the 2005–06 annual returns.

Source: ACMA

Appendix 9.2: First release Australian children's drama broadcast data

The *Children's Television Standards 2005* (CTS) set out an annual children's program broadcast quota of 390 hours. The Australian Content Standard sets out a sub quota that 96 hours (over three years) of children's television programs must be first release Australian programs. Commercial television licensees' performance in relation to the first release Australian children's program sub quota is set out below.

Table 9.2.1: First release Australian children's drama, 2003 to 2005

	2003	2004	2005	2003 to 2005 three-year period
Minimum requirement	25 hours each year			96 hours
Licensee	hours	hours	hours	hours
Seven licensees				
SAS Adelaide	33.95	33.00	30.00	96.95
BTQ Brisbane	33.95	33.00	30.00	96.95
HSV Melbourne	33.95	33.00	30.00	96.95
TVW Perth	33.95	33.00	30.00	96.95
ATN Sydney	33.95	33.00	30.00	96.95
Nine licensees				
QTQ Brisbane	32.00	32.00	32.00	96.00
GTV Melbourne	32.00	32.00	32.00	96.00
TCN Sydney	32.00	32.00	32.00	96.00
Ten licensees				
ADS Adelaide	31.00	32.50	34.00	97.50
TVQ Brisbane	31.00	32.50	34.00	97.50
ATV Melbourne	31.00	32.50	34.00	97.50
NEW Perth	31.00	32.50	34.00	97.50
TEN Sydney	31.00	32.50	34.00	97.50

Source: ACMA

Appendix 9.3: Events on the anti-siphoning list

Under section 115 of the *Broadcasting Services Act 1992*, the Minister makes a formal notice that lists events that should be available on free-to-air television for viewing by the general public. The events listed for 2006 are detailed below.

Table 9.3.1: Calendar of events on the anti-siphoning list, 2006

Sport	January	February	March	April	May	June
Olympic Games		Olympic Winter Games				
Commonwealth Games			Commonwealth Games			
Horse Racing						
Australian Rules Football			Premiership	Premiership	Premiership	Premiership
Rugby League Football			Premiership	Premiership	Premiership	Premiership
				State of Origin	State of Origin	
				Test against NZ		
Rugby Union						Bundaberg Rum Series
Cricket	Cricket test match					
	Cricket one day matches	Cricket one day matches				
Soccer					FA Cup final	FIFA World Cup
Tennis	Australian Open					Wimbledon
					French Open	French Open
		Davis Cup		Davis Cup		
Netball			Commonwealth Games			
Golf				US Masters		
Motor Sports			V8 Supercars	V8 Supercars	V8 Supercars	V8 Supercars
				Formula 1 Grand Prix		

Source: ACMA and DCITA

July	August	September	October	November	December
				Melbourne Cup	
Premiership	Premiership	Premiership			
Premiership	Premiership	Premiership	Premiership		
State of Origin			Test against NZ		
Bundaberg Rum Series	Bundaberg Rum Series				
				Cricket test match	Cricket test match
FIFA World Cup					
Wimbledon		US Open			
		Davis Cup			Davis Cup
Test against NZ			Test against NZ		
British Open				Australian Open	Australian Masters
V8 Supercars	V8 Supercars	V8 Supercars	V8 Supercars	V8 Supercars	
			MotoGP		
			Champ Car World Series (Indy Car)		



Glossary



2G	<p>second generation mobile telecommunications</p> <p>Mobile telecommunications services that use digital techniques, providing voice communications and a relatively low transmission rate for data. 2G technologies deployed in Australia are GSM and CDMA.</p>
3G	<p>third generation mobile telecommunications</p> <p>A broadband mobile telecommunications platform supporting multimedia voice, video and data services. WCDMA and CDMA2000 are the 3G technologies derived from the GSM and CDMA 2G technologies respectively.</p>
3.5G/4G	<p>Enhancements to mobile telecommunications systems that increase the usable data rate to allow the delivery of data intensive applications such as high resolution video.</p>
ABA	<p>Australian Broadcasting Authority</p> <p>Former Commonwealth regulatory authority responsible for broadcaster licensing and content regulation of broadcast and narrowcast services under the <i>Broadcasting Services Act 1992</i>. Also see ACMA.</p>
ABC	<p>Australian Broadcasting Corporation</p> <p>Free-to-air national broadcaster of ABC radio and television channels, as well as the internet services ABC Online, ABC Broadband and DIG internet radio. The ABC is funded by the Australian Government.</p>
ABS	<p>Australian Bureau of Statistics</p> <p>Commonwealth body responsible for collecting, analysing and publishing Australian demographic data.</p>
ACA	<p>Australian Communications Authority Former Commonwealth regulatory authority for telecommunications and radiocommunications. Merged with the Australian Broadcasting Authority in July 2005 to form the Australian Communications and Media Authority. Also see ACMA.</p>
ACCC	<p>Australian Competition and Consumer Commission</p> <p>Commonwealth regulatory body with responsibilities derived from the <i>Trade Practices Act 1974</i>.</p>
ACE	<p>Australian Communication Exchange</p> <p>The current National Relay Service and text-based emergency call service provider.</p>
ACIF	<p>Australian Communications Industry Forum</p> <p>Communications industry self-regulatory body established in May 1997 and responsible for developing industry codes, technical standards and service specifications. Now part of Communications Alliance Pty Ltd, formed from a merger with the Service Providers Association Ltd (SPAN) on 1 September 2006.</p>

ACMA	<p>Australian Communications and Media Authority</p> <p>Commonwealth regulatory authority for broadcasting, online content, radiocommunications and telecommunications, with responsibilities under the <i>Broadcasting Services Act 1992</i>, the <i>Radiocommunications Act 1992</i>, the <i>Telecommunications Act 1997</i> and related Acts. Established on 1 July 2005 following a merger of the Australian Communications Authority and the Australian Broadcasting Authority.</p>
ADSL	<p>asymmetric digital subscriber line</p> <p>A transmission method allowing high data rate communication over existing copper wires. The downstream data (data downloaded by user) transmission rate is much higher than the upstream data rate.</p>
ADSL2	Higher data rate ADSL with greater reach from local telephone exchanges, dynamic data rate adaptation, better resistance to noise, diagnostics, a stand-by mode to save power and reduced initialisation time.
ADSL2+	Version of ADSL that uses double the bandwidth for downstream data transmission, effectively doubling maximum downstream data rates.
AFP	<p>Australian Federal Police</p> <p>Australia's national police force. ACMA works with the AFP on email spam and illegal internet content such as child pornography that is hosted outside Australia.</p>
aggregator	Services that compile news, blog entries, podcasts and similar content from internet publication sources. Aggregators can also compile audio or video play lists.
AHTCC	<p>Australian High Tech Crime Centre</p> <p>Centre providing a national coordinated approach to combating serious, complex and multi-jurisdictional technology-enabled crimes and support efforts to protect the National Information Infrastructure. The centre is hosted by the AFP and staffed by members of the AFP, state and territory police, and representatives from private industry and government departments.</p>
alternative service	Telstra is required to offer USO customers access to an interim or alternative service when there is an extended delay in connecting or repairing the STS. This may be a service such as diversion to a mobile phone service or the provision of a second fixed-line telephone service.
AM radio	<p>amplitude modulation radio</p> <p>A method of radio broadcasting where the frequency is modulated or varied by its changing amplitude. AM radio signals travel large distances and have wide coverage areas. Radiofrequencies for AM broadcasts are expressed in kilohertz (kHz).</p>
AMPS	<p>advanced mobile phone system</p> <p>The so-called 'first generation' mobile phone system used for the analog mobile phone service in Australia, which closed in 2000.</p>

AMTA	Australian Mobile Telecommunications Association Association of mobile industry suppliers and manufacturers.
ANRA	Australian Narrowcast Radio Association Industry body responsible for a code of practice for open narrowcast services.
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency Commonwealth regulatory and research agency responsible for protecting people and the environment from the harmful effects of ionising and non-ionising radiation.
ASTRA	Australian Subscription Television and Radio Association Industry body for subscription television, radio broadcasters and narrowcasters, responsible for developing and reviewing industry codes of practice, in consultation with ACMA.
ATM	asynchronous transfer mode Means of digital communications capable of very high speed transfer rates up to 622 MB/s, or almost 1,000 times faster than ISDN, that is suitable for transmission of images, voice or video as well as data.
auDA	.au Domain Administration Organisation established to develop an effective self-regulatory regime for internet domain names in Australia.
bandwidth	In the internet industry, bandwidth refers to the capacity of a connection to carry information, while in radiocommunications it is the amount of radiofrequency spectrum used for a particular function.
bit/s	bits per second Rate of transfer of data. See also Gbit/s, kbit/s, Mbit/s.
blog	See weblog .
BPL	broadband over power lines Communications technique using the electricity grid or mains cabling within premises to deliver broadband services at higher data rates than previous power line communications.
BRACS	Broadcasting for Remote Aboriginal Communities Scheme See RIBS .
broadband	Describes a class of internet access technologies, such as ADSL, HFC cable and WiFi, offering a data rate significantly higher than narrowband services. These services are usually 'always-on' and do not tie up a telephone line exclusively for data. Broadband is a relative rather than absolute concept, 256 kbit/s widely regarded as the lower limit for broadband access.
BSB	Broadcasting services bands Parts of the radiofrequency spectrum dedicated to broadcasting services.

BWA	<p>broadband wireless access</p> <p>Wireless communication technique capable of higher data rate transmission over greater distances and more rapid deployment than copper cable (digital subscriber line) technologies.</p>
byte	<p>A set of bits that represent a single character. There are eight bits in a byte. While data transmission rates are usually measured in bits per second, data volumes are usually measured in bytes.</p>
call congestion	<p>The proportion of call attempts that are blocked because accessible network resources are unavailable, for example, when all outgoing lines or radio channels are busy.</p>
call drop-out	<p>Unintended disconnection of a call by a mobile network usually owing to a fall in the strength of the radio signal. The likelihood of call drop-out can be influenced by reflections and shadowing from physical features such as high-rise buildings, the size of the user base at any particular time in a mobile service area and customer usage.</p>
carrier	<p>The holder of a telecommunications carrier licence in force under the <i>Telecommunications Act 1997</i>.</p>
CBAA	<p>Community Broadcasting Association of Australia</p> <p>Organisation responsible for developing and reviewing, in consultation with ACMA, the CBAA Codes of Practice for community radio and community television.</p>
CDMA	<p>code division multiple access</p> <p>Access technique for digital wireless communications, including mobile phone and satellite services. The technique employs a bandwidth much larger than the original signal. Each signal is uniquely encoded and decoded. In this way, many signals can occupy the same spectrum.</p>
churn	<p>Transfer of a customer's telecommunications service from one provider to another.</p>
CNR calls	<p>caller no response calls</p> <p>Calls to the emergency call service where there is no response when the operator asks which emergency service is required.</p>
Communications Alliance	<p>Industry organisation formed on 1 September 2006 from the merger of the Australian Communications Industry Forum (ACIF) and the Service Providers Association (SPAN).</p>
congestion	<p>See call congestion.</p>
coverage area	<p>Geographic area within which mobile phone calls can be made. Coverage can be increased by installing radio base stations in new areas or by installing equipment to extend the range of coverage.</p>
CPP	<p>Community Phones Program</p> <p>Program under TAPRIC aimed at improving access to basic telecommunications services for people living in remote Indigenous communities, including the provision of community phones.</p>

CRA	Commercial Radio Australia Industry body responsible for developing and reviewing, in consultation with ACMA, the Commercial Radio Codes of Practice.
CSG	Customer Service Guarantee Standard providing for financial compensation to customers where requirements set out in the standard are not met.
CSP	carriage service provider Person supplying or proposing to supply certain carriage services, including a commercial entity acquiring telecommunications capacity or services from a carrier for resale to a third party. Internet and pay TV service providers fall within the definition of carriage service providers under the <i>Telecommunications Act 1997</i> .
CTS	Children's Television Standards Standards designed to provide access for children (aged <14 years) to quality television programs made specifically for them. The standards regulate timing and scheduling of children's programs and content of adjacent programming.
CTV	community television Free-to-air television service that serves the needs and interests of a particular community, that may be a geographical or interest-based community.
data rate	Volume of data able to be transmitted over a given period of time. Data rates are usually measured in bits per second.
data traffic	Volume of data transferred in both directions between a customer and the customer's ISP. Data traffic is measured in bytes.
DBA	Digital Broadcasting Australia Digital television industry organisation that provides information about digital TV commencement dates and coverage, functionality and availability of equipment, retailer locations and digital television programs and enhancements.
DCITA	Department of Communications, Information Technology and the Arts Commonwealth department responsible for, among other things, communications policy.
DDA	Disability Discrimination Act 1992 Commonwealth legislation that makes discrimination on account of one's disability unlawful.
DDSO	digital data service obligation Obligation to ensure that a digital data capability of 64 kbit/s is reasonably accessible to all people in Australia, wherever they reside or carry on business.
DEP	Disability Equipment Program Telstra's program for supplying people with disabilities with telecommunications equipment.

dial-up internet service	Service where subscribers connect to the internet via a modem and dial-up software utilising the PSTN or an ISDN connection.
Do Not Call Register	Register being established by ACMA that will allow individuals to register their home and mobile numbers to opt out of receiving most unsolicited telemarketing calls, with limited exemptions for public interest organisations.
drop-out	See call drop-out.
DSL	digital subscriber line Transmission technique that dramatically increases the digital capacity of telephone lines into the home or office. Also ADSL, HDSL, xDSL.
DSLAM	digital subscriber line access multiplexer A device that concentrates ADSL subscriber lines to a single ATM line.
e-marketing	electronic marketing The use of web-based applications and services to select and segment customers, develop and execute marketing campaigns, and distribute leads to sales channels.
EME	electromagnetic energy Energy in the form of waves having an electric and magnetic component.
ENUM	electronic number mapping A protocol that translates telephone numbers into a format that can be recognised by the internet protocol, and enables the linking of telephone numbers with other communications media, such as email, facsimile and mobile phone numbers.
ESA	exchange service area One of approximately 5,000 areas serviced by exchanges in Telstra's fixed telephone network.
ESO	emergency service organisation Organisation providing an emergency service, such as police, ambulance or fire brigade.
exchange	Network node where various numbers and types of communication lines are switched by the telecommunications network operator. Exchanges operate at local, long distance and international levels, and all subscribers are connected to their local exchange.
FCT	fixed cellular terminals Also known as a GSM gateway, a fixed cellular terminal carries one or more SIM cards and enables fixed-to-mobile or mobile-to-mobile calls to be delivered onto a mobile network, resulting in the calls being charged at lower call rates.
FLRN	freephone and local rate number Telephone numbers commencing with the digits 180 (freephone) and 13 (local rate).

FM	<p>frequency modulation radio</p> <p>A mode of radio broadcasting in which the frequency of the transmitted wave is modulated or varied with the amplitude or pitch of the signal. FM radio signals have good immunity to electrical interference and provide consistent quality reception during the day and night. The geographical coverage area varies, but for a high-power FM transmitter can be up to 100 kilometres. Radiofrequencies for FM broadcasts are expressed in megahertz (MHz).</p>
Free TV Australia	<p>Industry body responsible for developing and reviewing the Commercial Television Industry Code of Practice.</p>
FSA	<p>field service area</p> <p>One of 44 broad geographic regions in Telstra's fixed telephone network.</p>
GB	<p>Gigabytes</p> <p>A billion bytes.</p>
Gbit/s	<p>Gigabits per second</p> <p>Data transfer rate of a billion bits per second. See bit/s.</p>
GDDSO	<p>general digital data service obligation</p> <p>Obligation to provide digital data capability of 64 kbit/s in digital data service areas within a radial distance of four kilometres from an ISDN-capable telephone exchange for metropolitan areas, or within a radial distance of six kilometres for country areas.</p>
GDP	<p>gross domestic product</p> <p>Market value of all goods and services produced by labour and capital in Australia.</p>
geographic numbers	<p>Numbers used to provide access to local telephone services and related voicemail services, facsimile services, internet dial-up services and termination numbers for freephone and local rate services. Also known as local numbers.</p>
GHz	<p>Gigahertz</p> <p>One billion Hertz, where one Hertz is the measurement of frequency equal to one cycle of electromagnetic radiation per second.</p>
GSM	<p>global system for mobile communication</p> <p>the widely used European digital cellular network standard.</p>
GSP	<p>Gross state product</p> <p>Market value of all goods and services produced by labour and capital in an Australian state or territory.</p>
HDSL	<p>high-speed digital subscriber line</p> <p>See ADSL.</p>
HFC cable	<p>hybrid fibre coaxial cable</p> <p>Network element consisting of optical fibre on main routes, supplemented by coaxial cable closer to a customer's premises.</p>

HiBIS	<p>Higher Bandwidth Incentive Scheme</p> <p>An Australian Government program for subsidising ISPs that provide approved broadband services to consumers in rural and remote areas at less than specified prices.</p>
HREOC	<p>Human Rights and Equal Opportunity Commission.</p> <p>The Commonwealth agency with responsibility for administration of Australia's equal opportunity and anti-discrimination laws, including the <i>Disability Discrimination Act 1992</i>.</p>
ICH	<p>Internet content host</p> <p>A person who hosts or proposes to host internet content in Australia, who has a responsibility to remove prohibited content from their service once notified by ACMA of the existence of the content and to comply with registered industry codes of practice or industry standards developed by ACMA.</p>
ICNIRP	<p>International Commission for Non-Ionizing Radiation Protection</p> <p>International body for regulation of EME—publishes emission guidelines.</p>
IIA	<p>Internet Industry Association</p> <p>Peak body representing internet service providers and other internet industry members, including carriers, content creators and publishers, web developers, e-commerce traders and providers, hardware vendors and systems integrators.</p>
INHOPE	<p>Internet Hotline Providers in Europe Association</p> <p>International forum for internet hotlines to exchange information and experience. Member hotlines deal with complaints regarding illegal internet content, particularly child pornography. ACMA is an INHOPE member.</p>
interim service	<p>Voice telephony service that uses mainly mobile or satellite technology and is charged at STS rates. Telstra is required to offer USO customers access to an interim or alternative service when there is an extended delay in connecting or repairing the STS.</p>
IP	<p>Internet protocol</p> <p>The key member of the suite of internet protocols at the logical layer, specifying packet addressing and routing of data through the internet.</p>
IPND	<p>Integrated Public Number Database</p> <p>Database of information about customers of telecommunications services in Australia, for all carriers and CSPs.</p>
IPNDe	<p>IPND system introduced to enable authorised agencies to access IPND data with greater speed and a higher standard of request authentication.</p>
IPTV	<p>internet protocol television</p> <p>Television system whereby digital content is delivered via a network infrastructure, often in conjunction with video-on-demand and other non-television services such as VoIP and other internet services.</p>

ISDN	integrated services digital network Digital carriage network for both voice and data. A digital alternative to an analog public switched telephone network.
ISP	internet service provider CSP offering internet access to the public or another service provider.
IVR	interactive voice response Software application that accepts a combination of voice and touch-tone keypad selection to enable callers to select an appropriate response, including being connected to an operator. Common uses of this type of application include directory assistance, telephone banking, incoming call routing, telephone betting and other public information services.
KB	kilobyte(s) A thousand bytes. See byte(s).
kbit/s	kilobits per second Data transfer rate of 1,000 bits per second. See bit/s.
local numbers	See geographic numbers.
low-impact facilities	Communications facilities that are considered to have a low impact on their environment. They include underground cabling, small radiocommunications antennas and dishes, in-building subscriber connections and public payphones. The Telecommunications Act provides carriers with immunity from state and territory planning laws for the installation of 'low-impact' facilities.
MA15+	Content deemed by the OFLC under the National Classification Code as unsuitable for viewing by persons aged under 15 years.
MB	Megabyte(s) One million bytes. See byte(s).
Mbit/s	Megabits per second Data transfer rate of one million bits per second. See bit/s.
MCF	Mobile Carriers Forum Industry body established, among other things, to improve carrier efforts to co-locate mobile phone facilities and ensure coordinated network rollouts.
MHz	Megahertz One million Hertz. See also GHz.
the minister	Minister for Communications, Information Technology and the Arts Minister responsible for ACMA and its governing legislation, and the legislation that ACMA administers.

MSD	<p>mass service disruption</p> <p>Basis for claiming about an exemption by a CSP from complying with performance requirements under the CSG Standard due to circumstances beyond its control. The CSP must issue a public MSD notice, which must specify the start and end dates of the exemption period, the geographic area to which it relates and the number of customers affected by the exemption.</p>
MMS	<p>multimedia messaging service</p> <p>Mobile telecommunications data transmission service for sending messages with a combination of text, sound, image and video to MMS-capable handsets.</p>
MNP	<p>mobile number portability</p> <p>Portability for mobile phone numbers. See number portability.</p>
MP3	<p>mpeg (moving picture expert group) layer 3</p> <p>Audio compression standard for encoding music without losing sound quality. Files are compressed into digital audio files small enough for electronic transmission. Format commonly used for transferring, storing and listening to music on the internet.</p>
MVNO	<p>mobile virtual network operator</p> <p>Mobile phone service retailer that uses a mobile carrier's network and sets up a technical support layer replicating the carrier's mobile switching centre, such that the MVNO maintains control over its subscriber information.</p>
narrowband	<p>A class of telecommunications services such as dial-up internet access that offer data rates of 64 kbit/s or lower.</p>
NCD	<p>nominated carrier declaration</p> <p>Declaration made by the owner of a telecommunications network unit (facilities or infrastructure for delivery of telecommunications services) nominating a licensed carrier that will be responsible for the specified network unit.</p>
NEDE	<p>new eligible drama expenditure</p> <p>Expenditure on new Australian or New Zealand television drama programs, to meet content requirements that support the local television industry.</p>
non dial-up subscribers	<p>Subscribers with permanent and 'always on' connections to the internet using various technologies, including: ISDN connections that do not require the user to dial up, DSL, cable, wireless, satellite, dedicated data service, frame relay.</p>
NRF	<p>Network Reliability Framework</p> <p>Requirement on Telstra from January 2003 to provide regular reports to the ACA on the reliability of its fixed line services, and to remediate the network in areas with particularly poor performance.</p>

NRS	<p>National Relay Service</p> <p>Service that provides access to the standard telephone service for people with hearing or speech impairment through the relay of voice, modem or TTY communications. Operates as a translation service between voice and non-voice users of the standard telephone service. Currently provided by Australian Communication Exchange.</p>
number portability	<p>Arrangements allowing customers to transfer their telecommunications service from one service provider to another without changing their number.</p>
OFLC	<p>Office of Film and Literature Classification</p> <p>Australian Government agency that administers the <i>Commonwealth Classification (Publications, Films and Computer Games) Act 1995</i> and the National Classification Code for all films, computer games and submittable publications that are exhibited, sold or hired in Australia.</p>
OPC	<p>Office of the Privacy Commissioner</p> <p>An independent office of the Australian Government that has responsibilities under the <i>Privacy Act 1988</i></p>
open narrowcasting service	<p>A free-to-air broadcasting service that has its reception limited by being targeted to a special interest group, by being intended for limited locations, by being provided during a limited period, or limited for some other reason.</p>
pay TV	<p>subscription television service</p> <p>Service providing access, for a fee, to television channels transmitted using cable, satellite or terrestrial microwave.</p>
payphone	<p>A public telephone where calls may be paid for with coins, phone cards, credit cards or reverse charge facilities.</p>
PDA	<p>personal digital assistant</p> <p>A term for any small mobile hand-held device that provides computing and information storage and retrieval capabilities for personal or business use.</p>
P2P applications	<p>peer-to-peer applications</p> <p>Application files not stored on a central server, but exchanged directly between users. Consumer grade VoIP is an example of a voice application that consumers download onto their own computers, bypassing carrier and based service-delivery altogether.</p>
phishing	<p>The fraudulent practice of using official-looking emails and internet sites in an attempt to mislead internet users into disclosing online passwords, user names and other personal information.</p>
podcast	<p>A digital audio file that is made available on the internet for downloading to a personal audio player. Files can be downloaded automatically using aggregator services or by subscribing to podcast feeds such as the RSS (really simple syndication) feeder.</p>

post-paid	A contract under which a user is charged on a periodic basis based on service usage during the billing period.
portability	See number portability.
premium rate services	Content services accessed on numbers with a 190 prefix, where the cost of the call, including access to the content, is included on the customer's telephone bill. Content includes sports results, weather forecasts, astrology services, competition entries, dating contact and telephone sex services. Premium rate services include SMS as well as voice, fax and data.
pre-paid	A contract system by which users pay an amount up front to purchase a certain amount of usage or credit.
priority assistance	Service for people with a diagnosed life-threatening medical condition entitling them to faster connection and fault repair of their fixed-line telephone service.
PSTN	public switched telecommunications network Public telecommunications network operated by a carrier to provide services to the public.
R18+	Content deemed by the OFLC as unsuitable for viewing by a minor, under the National Classification Code.
RADSL	rate-adaptive asymmetric digital subscriber line A version of ADSL where the modems test the line at start-up and adapt their operating speed to the fastest the line can handle. See ADSL .
RIBS	Remote Indigenous Broadcasting Services Radio and television broadcasting services for remote Indigenous communities licensed by ACMA as community broadcasting services—formerly licensed under the Broadcasting in Remote Aboriginal Communities Scheme (BRACS).
RIMO	remote Indigenous media organisation Organisations that facilitate access to communications and media services in remote Indigenous communities.
RVA	recorded voice announcement Pre-recorded message played automatically when certain telephone numbers are dialled.
SAR	specific absorption rate Electromagnetic radiation exposure measurement for mobile phones—under ACMA's regulatory arrangement, the SAR must not exceed two watts per kilogram averaged over 10 grams.
SBS	Special Broadcasting Service Free-to-air national radio and television broadcasting service providing multilingual and multicultural programs that inform, educate and entertain all Australians and, in doing so, reflect Australia's multicultural society. The SBS Online service also provides additional multilingual content through the internet.

SDDSO	<p>special digital data service obligation</p> <p>Obligation to provide a service of a 64 kbit/s download connection speed on request to the four per cent of the Australian population who do not have access to ISDN-comparable data services (see also DDSO and GDDSO).</p>
SIAP	<p>Safer Internet Action Plan</p> <p>The European Union's response to the presence of illegal and harmful content on the internet. The plan comprised strategies for hotlines, filtering, and education and awareness, including establishing and funding INHOPE.</p>
SIO	<p>services in operation</p> <p>Refers to the number of services provided by a telephone company at a particular time. The term is used in the context of both fixed line services and mobile services.</p>
SIM card	<p>subscriber identity module card</p> <p>Type of smart card for use with a mobile phone that can be securely programmed with identification information of the account holder of the mobile phone service.</p>
smartnumbers®	<p>Specified freephone (1800) or local rate (13 or 1300) numbers allocated by auction that are considered desirable because they can be translated to a phoneword or have a memorable pattern.</p>
SMP	<p>standard marketing plan</p> <p>Approved plan by the universal service provider of how it will meet the USO.</p>
SMS	<p>short message service</p> <p>Mobile telecommunications data transmission service that allows users to send short text messages to each other using the mobile handset keypad.</p>
spam	<p>Unsolicited messages often sent in bulk to a large number of email addresses.</p>
SpamMATTERS	<p>ACMA's spam reporting and forensic analysis system. Users download a 'button' from the ACMA website to their email application that enables them to simultaneously delete spam from their computer and report it to ACMA.</p>
STS	<p>standard telephone service</p> <p>The telecommunications service defined as a carriage service providing voice telephony or an equivalent service that meets the requirements of the TCPSS Act and the DDA.</p>
TAPRIC	<p>Telecommunications Action Plan for Remote Indigenous Communities</p> <p>Plan developed from a study commissioned by the Australian Government that gathered information about telecommunications services required by remote Indigenous communities.</p>

TIO	<p>Telecommunications Industry Ombudsman</p> <p>Industry-funded independent dispute resolution service established in December 1993, for consumers unable to resolve complaints with their telecommunications carrier or CSP (including ISPs).</p>
TISSC	<p>Telephone Information Services Standards Council</p> <p>Independent self-regulatory and consumer complaint resolution body funded by the telephone information services industry.</p>
TSP	<p>telephone service provider</p> <p>CSP offering telephony services.</p>
TTY	<p>Teletypewriter</p> <p>Telephone typewriter where communication is typed after the call is connected, allowing people with hearing or speech impairment to use telecommunications. Calls can be connected to another TTY user or relayed and translated by the NRS.</p>
USO	<p>universal service obligation</p> <p>Obligation under the <i>Telecommunications Act 1997</i> to ensure standard telephone services, payphones and prescribed carriage services are reasonably accessible to all people in Australia on an equitable basis, wherever they reside or carry on business.</p>
VoIP	<p>voice over internet protocol</p> <p>A protocol for transmitting voice over packet-switched data networks. Also called IP telephony.</p>
VSP	<p>Voice over internet protocol service provider</p> <p>CSP supplying peer-to-peer application that enables customer to make voice calls over IP networks.</p>
webcam	<p>A digital camera capable of downloading images to a computer for transmission over the internet or other network</p>
weblog	<p>A website that displays in chronological order the postings by one or more individuals and usually has links to comments on specific postings. Also known as a blog.</p>
WiFi	<p>wireless fidelity</p> <p>Used generically to refer to wireless local area network (IEEE 802.11) technology providing short-range, high data rate connections between mobile data devices and access points connected to a wired network.</p>
WiMAX	<p>Worldwide Interoperability for Microwave Access</p> <p>Industry group organised to advance the IEEE 802.16 standards for broadband wireless access networks for multimedia applications with a wireless connection.</p>
WLAN	<p>wireless local area network</p> <p>Network using radiocommunications (rather than cable) to connect computer terminals or other digital devices over relatively short distances.</p>

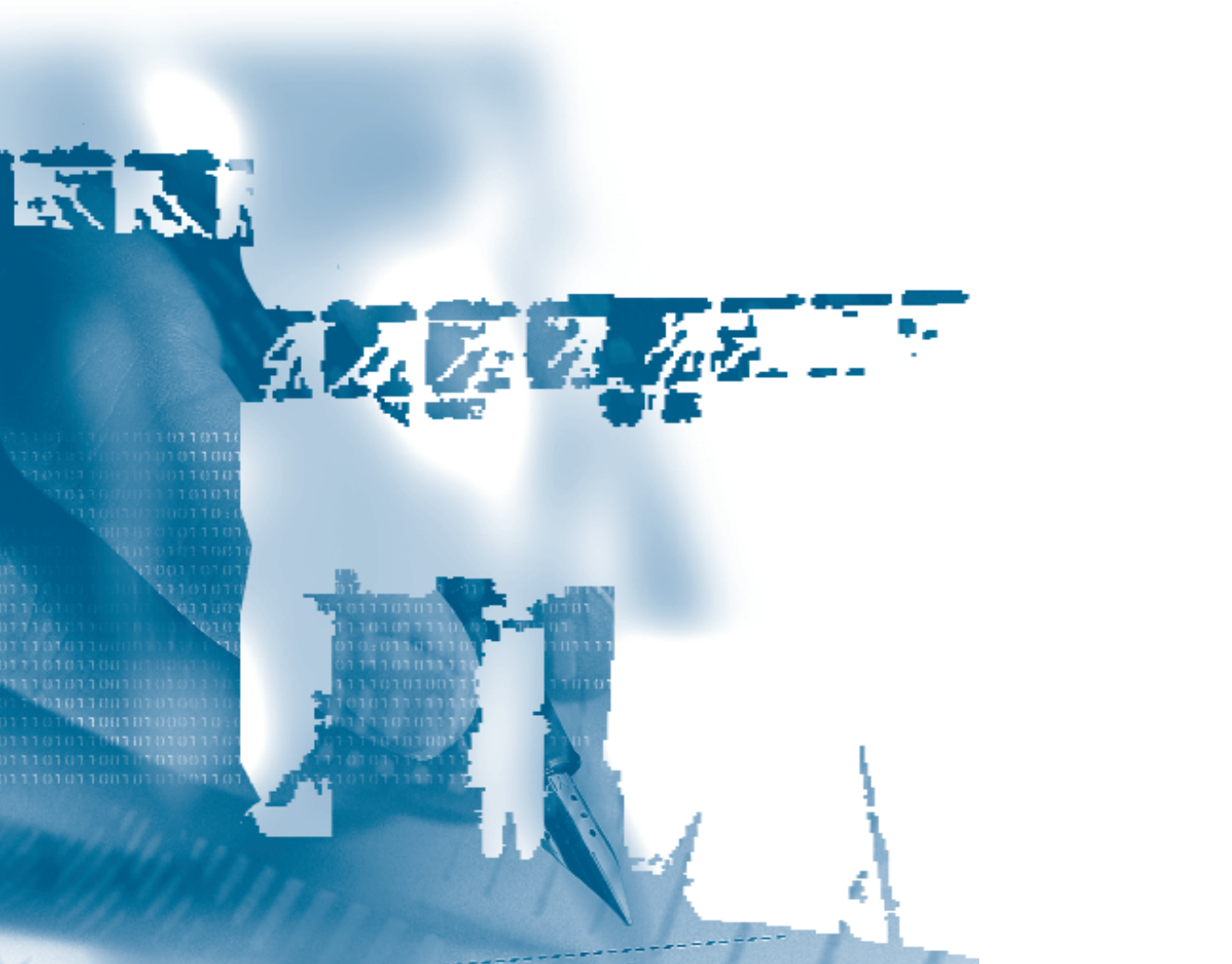
WLL**wireless local loop**

Use of radiocommunications rather than cable to connect a fixed or mobile handset and a specified telecommunications base station connected to a telecommunications network.

X18+

Content classified by the OFLC under the Australian Classification Code as containing sexually explicit activity that is likely to cause offence to a reasonable adult and is unsuitable for viewing by a minor.

Index



A

AAPT

- code breaches 265-6
- CSG connection performance 276
- CSG fault performance 276, 277
- CSG services 120, 274-5
- market share 61, 64
- priority assistance 153, 288-9
- revenue 53, 250
- USO levies 112

accessible telecommunications for people with disabilities 12, 116-117, 128, 283

- disability equipment programs 131, 283
- draft guideline 117
- National Relay Service 12, 106, 128-131, 151-2, 240, 282
- people with hearing or speech impairment 128, 130, 147, 151, 282
- television captioning 12, 106, 127-8
- receiving equipment 128

ACIF (Australian Communications Industry Forum) 11, 117, 144

- see also* industry codes of practice

ACIL Tasman 29, 206-221

ADSL services 64, 108-9, 132-4, 209-10, 220

advertising expenditure 10, 50, 77, 87-8

aggregators 22

allocation of numbers 50, 67

- data network access service numbers 252
- geographic numbers 68, 252
- mobile numbers 253

Anangu Pitjantjatjara 183, 187

anti-shiphoning

- see* television

.au Domain Administration Ltd 69

- see also* domain names

AusCERT 154

Austar 89, 128, 169

- see also* subscription television

Australasian Consumer Fraud Taskforce 158

Australia-United States Free trade Agreement 227

Australian Broadcasting Authority (ABA) 30

Australian Broadcasting Corporation 12, 74-7, 100, 128, 138, 194

Australian Bureau of Statistics (ABS) 12, 193, 215

Australian Communications Authority (ACA) 28, 66, 113, 124

Australian Communication Exchange (ACE) 13, 129-30, 147, 282

Australian Competition and Consumer Commission (ACCC) 11, 12, 64, 69, 92-94, 258

- complaints 94, 261

- disclosures to 144, 146, 285

Australian Content Standard

- see* *Broadcasting Services (Australian Content Standard) 2005*

Australian Direct Marketing Association 93, 144, 258

Australian eMarketing Code of Practice 93, 157

Australian Film Commission 194

Australian Film, Radio and Television School 194

Australian High Tech Crime Centre 158

Australian Internet Security Initiative 13, 157

Australian Mobile Telecommunications Association (AMTA) 58, 171, 258

Australian Narrowcast Radio Association 100

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) 169

Australian Subscription Television and Radio Association 89, 100, 140, 258

B

benefits to Australian economy 206-221

- consumer benefits 215, 217
- impacts on welfare measures 207, 217
 - consumer benefits 8, 25, 28, 215, 217
 - employment 199, 218, 219
 - GDP 207, 217
- regional analysis 215-16, 219-220
- small business benefits 217
- Tasman-Global Telco model 215-217

Billing Code 266

- see* complaints

Blunn Report 175

- Blunn, Anthony AO 175

Broadband Connect 53, 109-110, 135, 273

broadband internet services

- ADSL-enabled exchanges 11, 108
- fixed line access 58, 133-4
- satellite access 11, 108, 132, 135, 209
- subscribers, growth 63-64, 134, 159, 208-9, 224
- terrestrial availability by state 11, 135, 209-10, 216, 219-220
- uptake in broadband, by technology 133
- wireless access 11, 132, 135, 226

Broadcasting

- Australian content 15, 192-205, 294-295
- Broadcasting Services Band 111, 139-140, 255-257
- codes and compliance 11, 100-102
- commercial broadcasting 28, 74, 77, 111
- community broadcasting 74, 83, 111, 183, 203, 258
- consumer satisfaction 10-11, 101-102
- financial results 77-83
- international broadcasting 87, 111
- licensed services 26-28, 255
- local information on television 201
- non-BSB services 28, 78-80, 83, 111, 256-257
- open narrowcasting 30, 74, 86, 108, 111
- ownership and control rules 78
- remote Indigenous communities 14, 75, 85, 183-185

- sport and special events 203, 296
- subscription 11, 15, 24, 30, 35, 36, 39, 74, 85, 89, 100, 111, 135, 139, 140, 199

Broadcasting Services Act 1992 14, 50, 74, 78, 86, 100, 159, 160, 163, 201, 203, 255, 256, 290, 294, 296

Broadcasting Services (Additional Television Licence Condition) Notice 7 April 2003 201

Broadcasting Services (Australian Content Standard) 2005 11, 193, 195, 196, 199, 295

bundling complaints 9, 24

C

cable internet services 64

cables

- HFC 27, 89, 108, 132, 134, 169

- new cabling 168, 291

- overhead cabling 168-169, 291

- submarine 176-177

- underground cabling 168, 169, 291

Cabling Industry Committee 93

Cabling Provider Rules 66

cabling regulation 66-67

- licensed and registered cablers 26, 66-67

Cabling Requirements for Business Code 93

Call Charging and Billing Accuracy Code 260

Calling Number Display Code 260

call over-ride

- see* pre-selection 73

carriage service providers (CSPs) 10, 12, 50, 52, 54-55, 174, 224

carriers 26, 52-53, 58, 60, 62, 112, 131, 144-145, 167, 168, 174, 250

Carrier Licence Conditions (Telstra Corporation Limited) Declaration 1997 278

carrier licensing

- ACMA revenue from 29

- industry development plans 53

- nominated carrier declarations 54

- trends 52

CDMA networks 108

CDMA WLL 182-183

children

- see* Protections

- Children's Television Standards 2005* 11, 199-200, 295
- collaborative filters 22
- Commercial Churn Code* 259
- Commercial Economic Advisory Service of Australia 87
- Commercial Radio Australia 100, 258
- Commercial Radio Australia Codes of Practice and Guidelines* 201-202
- communications
 - emerging environment 16, 25, 40, 44, 224-225, 228
 - increased opportunities 9, 22, 25, 142, 225
 - community and social interests 14, 84
 - see* disclosure of customer information
 - see* installation of telecommunications facilities
- Community Broadcasting Association of Australia 100
- Community Broadcasting Foundation 183
- Community Phones Program 181-184
- competition in the telecommunications market
 - see* allocation of numbers
 - see* domain name administration
- ENUM 143
- number portability 50, 69, 70-72, 254, 259
- smartnumbers®** 29
- Complaints
 - ACMA's role 101
 - billing 261, 264, 265, 266
 - broadcasting 101, 269
 - bundling 9, 24
 - call number display 264
 - code breaches, ACIF 11, 263, 264, 265
 - commercial churn 264
 - complaint handling 93, 95, 264, 265
 - Connect Outstanding 264
 - content 160-161, 290
 - contracts 264
 - credit management 264, 265, 267
 - customer transfer 264, 265, 268
 - fault handling 94, 261
 - fixed telephone services 94, 261
 - handling unwelcome calls 264
 - infrastructure 170
 - interim and alternative services 127
 - internet domain names 93-94, 261
 - internet services 261
 - land access 168, 263
 - mobile services 261
 - number portability 264
 - phone cards 261
 - pre-selection 264
 - premium rate services 11, 97
 - content and advertising 96, 97
 - prices, terms and conditions 264, 265, 268
 - priority assistance 264
 - privacy 264
 - provision 94
 - SMS 155-156
 - Spam 155, 156
 - subscription television 261
 - telephone sex services 96
 - to ACCC 94, 261
 - to ACMA 101, 159
 - to TIO 31, 93, 94, 262-268
 - to TISSC 11, 96, 97
- Complaint Handling Code, ACIF* 93-95, 266
- compliance 10, 11, 144, 267
 - with broadcasting codes 197, 200
 - with telecommunications codes 93, 94, 167, 170
- Connect Outstanding Code 259
- connection of services
 - consumer satisfaction 98-99
 - see* Customer Service Guarantee performance
- Consumer behaviour 34-49
 - emerging issues 16, 35, 44
 - equipment 136
 - profiles 42-43, 246
 - socialising 39, 44, 45, 46, 47, 244
 - technology adoption 9, 41, 42-43
 - usage 242-244, 246-247
 - young adults 10, 44-45, 46-47
- Consumer Benefits Resulting from Australia's Telecommunications Sector* 206-221
- Consumer Contracts Code* 264

consumer satisfaction 11-12, 93, 98

- broadcasting 101-102
 - free to air television 102
- telecommunications 98-99
 - connection of services 98-99
 - fault repairs 98-99
 - fixed telephone services 98-99, 101-102

consumer satisfaction survey 98-102

content

- regulation 159
 - broadcasting 17, 30, 100, 101, 193, 195
 - internet 14, 30, 159, 160-163, 227, 290
 - mobile content 22, 25, 159
 - premium rate mobile content services 96
- user-generated 23, 25

convergence 9, 17, 21-25, 132, 154, 227-228

- and consumers 22
- applications 9, 21
 - client-server 24
 - internet 24
 - off-net 24
 - peer-to-peer 24
- digital devices 23
- markets 24, 25
- technological 9, 21

Coordinated Communications Infrastructure Fund (CCIF) 133, 184

copyright infringement 227

credit management, complaints to TIO 95, 264, 265, 267

Credit Management Code 95, 259, 264, 265, 267

Customer Service Guarantee (CSG) Standard 8, 12, 28, 119-121, 185, 186, 187, 188, 189, 275-277

- connection performance 119, 120, 189, 275-276
- decline in number of services covered 12, 119, 274
- fault repair performance 119, 120, 189, 276
- mass service disruptions 120, 121
- service providers' performance 12, 119-120, 275-277

Customer Transfer Code 95, 260, 264, 265, 268

Cybersmart Detectives 160

D

data downloads 209

data network access service numbers 67, 252-253

Department of Communications, Information Technology and the Arts (DCITA) 66, 130, 154, 182, 184, 258, 281

Deployment of Mobile Phone Network Infrastructure Code 170

Desert Region (South and Central Australia) 183, 185-190

- current/future service initiatives 185-186
- regional profile 187-190
- service availability and quality of service performance 181-185
- service repair and connection performance 189-190

devices

- see* consumer equipment
- see* convergence

dial-up internet subscribers 10, 16, 38, 43, 57, 63, 64, 67, 118, 134

Digital Action Plan 135

digital broadcasting 135-136

digital data service obligation (DDSO) 8, 12, 117-118

- general digital data service (GDDS) 117-118
- special digital data service (SDDS) 117-118, 273

digital divide 227

digital radio 12, 21, 24, 135, 139-140

digital television 9, 12, 39, 135-139

- digital channels 77, 127, 128, 138-139
- multichannelling 137-138
- penetration 9, 12, 38, 135, 136

Disability Discrimination Act 1992 131, 283

disability equipment programs 131, 283

- supply of disability equipment 131, 283

disclosure of customer information 13, 143-146

- see also* privacy
- customer data 172, 172
- interception capabilities 14, 171, 174

domain name administration 69
 allocations 69
 .au Domain Administration Ltd 69
 new 2LDs 69

Do Not Call Register 13, 154, 158

E

e-commerce 62
 economic benefits
 see benefits to Australian economy
 electromagnetic emission 166
 infrastructure 170
 mobile phone towers 170
 regulation 169
 eligible revenue, USO 112, 250
 email 9, 10, 13, 22, 37, 39, 45, 57, 144, 155, 157, 158, 213, 243, 244, 247
eMarketing Code 93, 157
 emergency call persons 144, 147, 149, 150, 286
 emergency call service 148-152
 see also protection 13, 144, 147,
 calls to 000 and 112 148, 149
 calls to 106 text service 151
 contributing factors 149
 emergency call trends and issues 148-152
 SIMless GSM calls to emergency services 150
 ENUM 143
 environment
 see protection
 e-security 13, 154, 157

F

fault repair, consumer satisfaction 98-99
 fault repair performance, CSG 119, 120, 189, 276
 Film Finance Corporation 194
 fixed cellular terminal operators 58
 fixed telephone services 16, 57, 74, 119, 169, 188, 213, 214
 complaints to TIO 95
 consumer satisfaction with connection of services 98-99
 decline in subscribers 10, 51, 57, 213
 growth in carrier numbers 52-54

price movements 213-214
 remote Indigenous communities 181-190
 revenue changes 58, 213-214
 supply of CSG services 119

Foxtel

see subscription television

fraud 146, 154, 158
 freephone and local rate numbers (FLRNs) 67, 69, 71, 252
 portability 71, 254
 see also **smartnumbers**[®] 93, 157

Free TV Australia 100, 197, 258

G

games, 25, 37, 45, 158, 243, 247
 massive multiplayer online games 25
 GDP, and improvements in telecommunications sector 207, 216, 217
 general digital data service (GDDS) obligation 117-118
 geographic domain names
 see domain names
 geographic numbers
 see allocation of numbers
 Gibson Quai AAS 206
 GSM networks 11, 26, 27, 29, 58, 108, 147, 150, 253

H

Handling of Life Threatening and Unwelcome Calls Code 259, 264

Health

see protections

HFC

see cables

Higher Bandwidth Incentive Scheme (HiBIS) 53, 109, 110, 133

Hotkey Internet Services Pty Ltd 118

Human Rights and Equal Opportunity Commission (HREOC) 127, 128

Hutchison

 LocalZone service 70

 mobile phone market share 59

 revenue 60

 3G networks 58, 132

I

- InContact 181
- Indigenous communities 14, 15, 85, 86, 114, 115, 116, 180-191, 292
 - Indigenous Telecommunications Steering Group 187
 - remote indigenous media organisations 180, 183, 184
 - services
 - see also* services
- industry 10, 50-91
 - broadcasting 50, 74-88
 - information and communications technology 66
 - issues 16, 226
 - subscription television 89
 - telecommunications 10, 51-74
- industry codes 92, 93, 100, 145, 154, 157, 159
 - ACIF 170, 254, 259-60, 288
 - complaints to TIO 263-5
- Industry Number Management Services Pty Ltd
 - see* number portability
- infrastructure
 - see* submarine cables
- installation of telecommunications facilities 167
 - Deployment of Mobile Phone Network Infrastructure Code* 170
 - see also* electromagnetic emission
- instant messaging 10, 22, 45, 46, 57, 158, 160
- Integrated Public Number Database (IPND) 144, 146-147, 260
 - audits of accuracy 153
 - manager 146, 147
 - Integrated Public Number Database (IPND) Code* 260
 - IPNDe 147
- interception capabilities 144, 173, 174
 - see also* disclosures
 - cost of providing interception 174
- interim and alternative services 126-127
- international broadcasting 87, 111
- Internet Industry Association 62, 93, 144, 157, 159, 258
- internet regulation 14, 30, 159, 160-163, 227, 290
 - international agreements 160, 163
 - see* Australian domain names
 - see* Australian industry codes of practice and other industry initiatives
 - prohibited content 161, 162, 290
- internet security 13, 142, 154, 157
- Internet Security Initiatives 13, 157
- internet service providers (ISPs) 11, 13, 61, 62, 98, 99, 143, 157, 171, 251
 - code of practice for dealing with spam 93, 157
 - National Filter Scheme 160
 - Safety Measures Notice 160
- internet services
 - ADSL 11, 16, 64, 108-109, 132-134, 208-209, 210, 220
 - affordability 209
 - average revenue per subscriber by internet technology type 209
 - broadband
 - see* broadband
 - cable 64
 - codes of practice 93, 94, 95, 98, 157, 161
 - complaints 261
 - content hosts 30, 159
 - content regulation
 - see also* internet regulation
 - see also* Safety Measures Notice
 - see also* National Filter Scheme
 - growth 63-64, 134, 159, 208-9, 224
 - narrowband (dial-up) 10, 16, 38, 43, 57, 63, 64, 67, 118, 134
 - prices 208-209
 - quality of service 227
 - satellite broadband 108, 135, 209
 - spam
 - see* spam
 - socialising 39, 44, 45, 46, 47, 244
 - terrestrial broadband availability 27, 35, 36
 - trust and security 142, 154, 249
 - usage 36
 - wireless 23
 - volume of download per internet technology per subscriber 208

L

- law enforcement
 - see* Protections
- licenses
 - radio apparatus, number of 26, 29, 86
 - spectrum licenses 26
 - ACMA revenue 29
 - telecommunication carrier licences 26
 - ACMA revenue 29
- licence area 255, 256, 257
- licence area plans 26, 111
- licensed cablers
 - see* cabling
- Lifelounge Urban Market Report 34, 44, 45, 46, 47
- local number portability 70, 259, 264
- Local Number Portability (LNP) Code* 259, 264

M

- markets
 - convergence and 9, 10, 24
 - fixed-line 52-61
 - internet 61-64
 - mobile 36, 58-59, 211, 243
 - radio 79
 - subscription television 89
 - television 81, 95, 96, 198, 201
- mass service disruptions
 - see* National Reliability Framework 120, 121
- media literacy 16, 226, 227
- Mobile Carriers Forum (MCF) 170
- mobile networks
 - CDMA networks 11, 27, 108
 - GSM networks 11, 27, 108
 - 3G networks 9, 11, 12, 21, 27, 36, 37, 40, 42, 108-109, 110, 132, 135, 211, 212, 243, 247, 253
 - towers 170
- mobile number allocation 67, 68, 253
- mobile number portability 71, 72, 254, 259, 264
- Mobile Number Portability (MNP) Code* 72, 254, 259, 264
- Mobile Phone Network Infrastructure Code* 170

- mobile phone services 21, 28-29
 - carriage service providers 58
 - complaints to ACCC 261
 - complaints to TIO 262
 - consumer profile 242-243
 - and emergency calls 13, 286
 - growth 16, 51, 60
 - impact of capped pricing plans 212
 - market share 51, 58-59
 - penetration rates 10, 28-29, 36-37
 - pre-paid and post-paid accounts 211
 - price movements 214
 - remote Indigenous communities 182, 189
 - revenue 60, 214
 - satellite phone subsidies 135, 139
 - SMS message 21, 25, 28, 37, 155, 156, 211, 215, 243, 247, 259
 - usage 35-37
- mobile satellite voice services 11, 108, 126, 189
- mobile service resellers 58
- mobile virtual network operators 58
- music content quota 201

N

- narrowcasting 50
 - open 30, 74, 86, 108, 111
 - subscription 74
- national interests
 - see* emergency call service
 - see* Integrated Public Number Database
 - see* National Filter Scheme
 - see* provision of assistance to law enforcement and national security agencies
- National Privacy Scheme, 143
- National Relay Service 12, 128-130, 151, 250, 282
 - funding 131
 - provider performance 130-131
 - trends in usage 128-130
- Neighbourhood Cable 89, 169

Network Reliability Framework (NRF) 121-26

- Level 1 – national and field service area performance 121-123, 278-279
- Level 2 – exchange service area performance 123-124, 279-280
- Level 3 – individual service performance 124-126, 280-281
- remote Indigenous communities 185, 186, 188
- review 281

Network Ten 128, 195, 196, 198

Ngaanyatjarra Media 183, 184, 185, 187, 190

Nine Network 80, 81, 128, 195, 196, 198

nominated carrier declarations 54

number allocation 67-68, 252-253

- geographic 28, 252
- mobile 253

number portability 69-73, 254

- freephone and local rate numbers 71, 254
- local numbers 70, 254
- mobile numbers 71-73, 254

O

Office of Film and Literature Classification (OFLC) 258

Office of the Privacy Commissioner (OPC) 143, 144, 258

online banking 9, 39, 158, 185, 244

Optus 52, 53

- broadband market share 64
- code breaches 265-267
- complaints to ACCC 94
- CSG connection performance 120, 275, 276
- CSG fault repair performance 276
- CSG services 274
- market share 61
- mass service disruptions 120, 121
- mobile phone market share 58, 59, 60
- NRS funding 131
- removal of overhead cables 169
- subscription television 89, 128
- supply of equipment to people with a disability 131

3G network 132

USO levies 112, 250

overhead cabling

- see* cabling

P

Pacific Internet 157

pay TV services

- see* subscription television

payphones

- access for people with a disability 116-117
- fault repairs 115
- in remote Indigenous communities 14, 181
- fault repair performance 190
- installation performance 189
- numbers 181
- installation 272
- numbers 27, 108, 113-114,
- Payphone Policy Review 113, 116, 117, 180
- serviceability 115
- Telstra rationalisation policy 117

peer-to-peer networking (P2P) 25

people with disabilities, accessible telecommunications

- payphones 116-117
- National Relay Service 12, 106, 128-131, 151-2, 240, 282
- Disability Equipment Program 131, 283

people with hearing or speech impairment 128, 130, 147, 151, 282

Personal Broadband Australia 168

phishing spam 158

Pitjantjatjara Yankunytjatjara Media 183, 187

place-shifting 23

podcasting 25

premium rate mobile content services 160

- chat room safety 158, 159, 160
- restricted content 22, 24, 159

premium rate services
 TISSC role 96-97
 pre-selection 73-74
Pre-selection Code 259, 264
 Pricewaterhouse Coopers 88
 price movements 209-214
 fixed-line services 213-214
 internet services 209-210
 mobile phone services 211-212
Prices, Terms and Conditions Code 95, 264, 265, 268
 Primus
 complaints to ACCC 94
 CSG connection performance 120, 275-277
 CSG fault performance 120, 276
 internet service provider 64
 mobile service reseller 58
 priority assistance 153, 288-289
 priority assistance 153, 260
 service providers' performance 288-289
Priority Assistance Code 260, 264
Privacy Act 1988 143, 144
 review by Australian Law Reform Commission 143
 privacy and protection of personal information 13, 16, 142-144, 147, 172, 174, 227, 228
 complaints 264
 IPND code revision 260
 technological developments 227-228
 see also disclosure of customer information
 programming
 see broadcasting
 protection 13, 142-165, 166-178
 see emergency call service
 see priority assistance
 of children 158, 159, 160, 200, 227
 of environment 167
 see also overhead cabling 168-169, 281

of health 66, 169, 171
 of infrastructure 154
 see also submarine cables 176-177
 of privacy 13, 16, 142-144, 147, 172, 174, 227, 228
 see also IPND
 see also disclosures of personal information
 provision of assistance to law enforcement and national security agencies 14, 144, 147, 152, 157, 162, 171, 172, 174, 175, 285
 interception capabilities 171, 174-175
 obligations of carriers and carriage service providers 174

Q

quality of service 186, 187, 188, 227
 internet services 227

R

radio broadcasting
 advertising 87-88
 codes of practice 100-101, 202-203
 commercial broadcasting licensees 26, 78, 255
 community radio 83-84
 consumers 39
 coverage 108, 111
 digital broadcasting 21, 135, 139-140
 indigenous radio broadcasting 183, 185
 markets 78
 music content quotas 201
 national broadcasters 74-77
 non-BSB 256-257
 revenue 10, 79, 80
 transmitters 26
Radiocommunications Act 1992 86, 171, 255
Radiocommunications services 26, 108, 111
Radiocommunications (Compliance Labelling – Electromagnetic Radiation) Notice 2003 171

Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003 171

Radiocommunications Licence Conditions (Apparatus Licence) Determination 2003 170

radiofrequency identification 111, 143

radiofrequency spectrum 26, 29, 86, 111, 132, 135, 139, 140

regional analysis, benefits from changes in telecommunications services 215, 216, 219, 220

Regional Internet Australia 168

Regional Telecommunications Inquiry 181

registered cablers

see cabling regulation

regulators

emerging developments 17, 44, 163, 227-228

issues for regulators 17, 227

remote Indigenous communities

see also Indigenous communities

accessibility and take-up of telecommunication services 181-183

Community Phones Program 182-183, 184

data collection and monitoring of telecommunications needs and services 181, 182, 292-293

government initiatives 185

media organisations 183

payphones 14, 182, 189-190

service provision 14, 188-189

snapshot studies

Desert region (South and Central Australia) 186-188

West Kimberley (West Australia) 186-188

Rogers Adoption Segmentation Model 41

Roy Morgan Research 36, 38, 41, 44, 65, 98

S

satellite internet services 108, 117, 135, 209, 273

self-regulation

ACIF codes 170, 254, 259-260, 288

industry codes of practice 92, 93, 100, 145, 154, 157, 159

services

availability summary 108-109

enhanced services

broadband services 132-135

broadband wireless access 135

digital radio 135, 139-140

digital television 135-139

subscription television 140

3G networks 108-109, 132

for people with disabilities 12, 116-117, 128, 283

National Relay Service 12, 106, 128-131, 151-152, 240, 282

Disability Equipment Program 131, 283

receiving equipment 128

television captioning 12, 106, 127-128

geographic distribution 108-110

regulated services

see Customer Service Guarantee Standards

see Digital Data Service Obligation

see interim and alternative telephone services

see National Reliability Framework

see payphones

see universal service obligation

Seven Network 80, 81, 128, 195, 196, 198, 295

SIMless phones 150

see also fixed cellular terminal operators 58

small business benefits from improvements in telecommunications sector 217

smartnumbers* 29

auction revenues 29

SMS complaints 155-156
 spam 155-156
 SMS message services, 12, 21, 36, 211, 245, 247
 social interests
 see Protections
 South Australian Internet Association 93
 spam
 Australian eMarketing Code of Practice 93, 157
 Australia's rank as a spam-relaying nation 31, 154
 consumer complaints 155, 156
 emails 155
 enforcement actions 31, 155, 156
 forensic tools 13, 155, 157
 industry *codes* 93, 157
 international cooperation 154, 156, 160, 163
 monitoring 155
 SMS messages 155, 156
Spam Act 2003 13, 31, 144, 154, 156, 158, 259
 spam-filtering software 227
 SpamMatters 13, 155
 Special Broadcasting Service (SBS) 12, 26, 30, 74-75, 77, 100, 128, 194
 special digital data service (SDDS) obligation 117-118, 273
 specific absorption rate 171
 Standard Telephone Service 14, 54, 56, 112, 119, 126, 128, 131, 259, 274, 278
 submarine cables 176-177
 subscription television 89
 availability 85, 89, 108
 codes of practise 100
 drama programming expenditure 199
 digital transmission 89, 135, 140
 market share 89
 penetration 35, 89
 subscriber numbers 39, 89

T

Tasman-Global Telco model 215-217
 Telecommunications Action Plan for Remote Indigenous Communities 292-293
 technological developments 16, 17, 68, 225, 228
Telecommunications Act 1997 8, 13, 50, 52, 54, 67, 93, 144, 145, 146, 147, 157, 167, 168, 169, 170, 172, 173, 175, 177, 207, 250, 254, 263, 284, 285, 291
 Telecommunications Action Plan for Remote Indigenous Communities (TAPRIC), Community Phones Program 181, 182, 292-293
Telecommunications Code of Practice 1997 167
Telecommunications (Consumer Protection and Service Standards) Act 1999 112, 250, 251, 274
Telecommunications (Emergency Call Service) Determination 2002 286
 telecommunications industry 10, 16, 25-29, 51-74, 107-110, 142, 167, 206-221
 Telecommunications Industry Ombudsman
 complaints 31, 262-265
 ACIF code breaches 11, 263, 264, 265
 billing 261, 264, 265, 266
 credit management 264, 265, 267
 customer transfer 264, 265, 268
 fixed telephone services 94, 261
 interim and alternative services 127
 internet services 261
 mobile phone services 261
 prices, terms and conditions 264, 265, 268
 privacy 264
 membership 31, 54, 55, 251
 role 10, 94, 258
Telecommunications (Interception) Act 1979 144, 172, 174, 175
Telecommunications (Interception) Amendment Act 2006 175

Telecommunications (Low-impact Facilities) Determination 1997 167

Telecommunications Numbering Plan 1997 67, 252-253, 259

Telecommunications Service Provider (Mobile Premium Services) Determination 2005 (No. 1) 159, 160

telecommunications services reform, benefits resulting from 261-221

Telephone Information Services Standards Council (TISSC) 96, 258

code of practice 96, 97

complaints 11, 96-97

self-regulatory scheme for mobile content service providers 258

telephone service providers

see carriage service providers

see telecommunications industry

telephone sex services 96

teletypewriters (TTYs) 117, 129, 130, 282, 283

television 21, 24, 25, 35, 39

advertising 87, 88, 197, 226

anti-siphoning 203, 296

audiences 25, 77

Australian content 15, 75-76, 193, 199, 294

captioning 12, 127, 128

childrens' programs 83, 199

Children's Television Standard 11, 199, 200, 295

codes of practice 100

commercial licensees 11, 28, 77, 78, 80, 196

complaints 100-102

community broadcasters 83, 85

content 193

digital television 22, 135-139

Indigenous television 15, 183, 185

licensing data 255-256

local information requirements 201

mobile 139

multichannelling 137

national broadcasters 26, 30, 39, 74-77, 100, 138, 194

ownership and control 78

program expenditure 82

Australian 193, 199, 294

children 83, 200

documentaries 198

drama 196, 199

regional television 15

revenue and profitability 10, 80, 81

safeguards 159

subscription

see subscription television

transmitters 26

use 35, 36, 39

Telstra 10, 52

as IPND Manager 147

broadband market share 64

carrier revenue 53, 250

CDMA mobile network coverage 27, 108, 183

complaints to ACCC 94

CSG connection performance 120

CSG fault repair performance 120, 122, 123-126, 189

CSG services 274-277

emergency call persons, performance 149, 286-287

fixed-line services 57

GDDS obligation fulfilment 117-118

interim and alternative services 126-127

mass service disruptions 120-121

mobile phone market share 58-59, 60

Network Reliability Framework 121-130, 131, 188, 278-281

payphone services 113-117, 270-272
 premium rate services 96
 pre-paid and post-paid mobile customers 28
 priority assistance services 153, 288-289
 SDDS obligation fulfilment 117, 118, 273
 service to remote Indigenous communities 181-186, 189, 292-293
 subscription television 89
 supply of equipment to people with a disability 131, 283
 supply of interim and alternative services 126-127
 3G network 132
 USO eligible revenue 112
 USO levy receivable 112
 USO Standard Marketing Plan 126, 131, 189, 272
 terrestrial mobile networks 182, 293
 see mobile networks
 3G service networks
 see mobile networks
 time-shifting 23
Trade Practices Act 1974 93, 261
 access regime 93, 261
 anti-competitive conduct 93, 261
 see also ACCC
 TransACT Communications 89

U

underground cabling
 see cabling
 undersea cables
 see submarine cables
 universal service obligation (USO)
 eligible revenue 112
 funding 112
 interim and alternative services 126-127
 payphones 113-116, 117
 unsolicited communications
 see also e-security
 see also spam

V

video-on-demand 89
 video streaming 17, 22, 24, 159
 Vodafone
 complaints 168
 compliance with *MNP Code* 71-73
 disclosures of customer information 146
 mobile phone market share 59
 revenue 52, 60
 3G network 132
 USO levies 112
 voice over internet protocol (VoIP) services 10, 26, 35, 36, 39, 213
 consumers 325, 36, 39, 40, 41, 42, 244, 246
 growth in service providers 65
 regulatory implications 225

W

weblogs 160
 Western Australian Internet Association 93
 West Kimberley (West Australia) 183, 185-190
 current and future service initiatives 185-186
 regional profile 187-190
 service availability and quality of service performance 181-185
 service repair and connection performance 189-190
 wireless broadband access 12, 23, 135
 WLANs 135
 World Without Wires 168

Y

Young adults 10, 44, 45, 46, 158

CANBERRA CENTRAL OFFICE
Purple Building, Benjamin Offices
Chan Street, Belconnen
PO Box 78
Belconnen ACT 2616
Tel: 02 6219 5555
Fax: 02 6219 5200

MELBOURNE CENTRAL OFFICE
Level 44, Melbourne Central Tower
360 Elizabeth Street, Melbourne
PO Box 13112 Law Courts
Melbourne Vic 8010
Tel: 03 9963 6800
Fax: 03 9963 6899
TTY: 03 9963 6948

SYDNEY CENTRAL OFFICE
Level 15, Tower 1 Darling Park
201 Sussex Street, Sydney
PO Box Q500
Queen Victoria Building NSW 1230
Tel: 02 9334 7700, 1800 226 667
Fax: 02 9334 779