Association for Information Systems
AIS Electronic Library (AISeL)

AMCIS 2009 Proceedings

Americas Conference on Information Systems (AMCIS)

2009

Mandatory ISP Filtering for a Clean Feed to Australian Internet Subscribers

Geoffrey A. Sandy
Victoria University of Melbourne, Geoff.Sandy@vu.edu.au

Follow this and additional works at: http://aisel.aisnet.org/amcis2009

Mandatory ISP Filtering for a Clean Feed to Australian Internet Subscribers

Geoffrey A Sandy
Victoria University, Melbourne, Australia
Geoff.Sandy@vu.edu.au

ABSTRACT

The Australian Government intends to mandate filtering at the Internet Service Provider (ISP) level to provide a "clean feed" to all subscribers. It claims the current arrangement that includes optional filtering at the Personal Computer (PC) level has failed to protect children from unsuitable Internet content. This paper addresses three key questions that are relevant to IT professionals everywhere because they concern important societal and ethical issues. First, has the current co-regulatory system failed to protect children? Second, is a "clean feed" feasible and practicable? Finally, even if a "clean feed" is feasible and practicable should the Government legislate for it?

Keywords

Clean feed, ISP filtering, PC filtering.

INTRODUCTION

The Australian Labor Government is to amend the Online Services Act 1999 to provide for mandatory filtering of Internet content at the Internet Service Provider (ISP) level. The purpose of ISP filtering is to provide what is referred to as a "clean feed" to subscribers. The stated motivation is a claim that the current co-regulatory system has failed to protect children from unsuitable Internet content.

This paper addresses three key questions.

1. Has the current co-regulatory system failed to protect children from unsuitable Internet content?
2. Is a "clean feed" feasible and practicable?
3. Even if a "clean feed" is feasible and practicable should the Government legislate for it?

These questions are relevant to IT professionals because they concern important societal and ethical issues and include:

1. How children are best protected from unsuitable Internet content.
2. Internet performance and any degradation that comes from filtering.
3. The design and use of IT artifacts and any impact on personal privacy and Internet free speech.

Three types of risks are often identified when addressing cyber-safety for children. They are content, communication and e-security. Content risks relate to possible harmful effects from exposure to certain types of content. Communication risks are associated with communication and contact on the Internet. It includes interpersonal communications and the risks of cyber-bullying and contact with sexual predators for instance. Finally, e-security risks are those associated with a range of Internet activities and may include providing the child's personal information and installing the home computer without adequate protection. It should be noted that this paper is concerned with Internet content filtering and only incidentally the other and probably more important aspects of cyber-safety of children.

The data collected and analysed to address the research questions is primarily from "official" secondary sources. This includes government agency reports, technical and other independent commissioned reports, internet industry documents, official media releases and factual rather than opinion newspaper reporting. Data from organizations like Electronic Frontiers Australia and libertus.net, that exist to promote a "free net", may be regarded as "parochial" and this is acknowledged. However, such data is considered useful.

A SHORT HISTORY OF THE PROPOSAL

In the late 1990s the Australian Conservative Government prepared the Online Services Bill to amend the Broadcasting Services Act to legislate for regulation of the Internet. In an early version of the Bill there was provision to mandate ISP filtering. However, this proposal attracted a great amount of criticism from the then Labor opposition and the Internet industry and was dropped. The Bill that was brought to the Federal Parliament in 1999 described the system as Co-Regulatory. It was to be a partnership of government, industry and parents. What was eventually mandated was that each ISP offer a recommended PC filter to each subscriber. Parents could install the filter as a level of protection for children against content risks. Installation was optional. Beazley, then leader of the opposition, in a Media Release (2006) announced that Labor should it be elected would implement ISP filtering to provide a "clean feed" to all Australian households. There would be provision for adults to opt-out and continue to be subject to existing arrangements. Labor argued that the current system had failed to protect children from content risks. Labor was elected in November 2007 with a new leader Kevin Rudd. It is likely that Labor was influenced by The Australian Institute (Media Release 2003) call for ISP filtering. However as the EFA (2003) has pointed out the Institutes' proposal did not provide for adult opt-out.

Mandatory ISP filtering is the current policy of the Labor Government. It intends to legislate to require all ISPs to implement a blocking system applicable to "all households, and to Schools and other public interest points" to "prevent users from accessing any content that has been identified as "prohibited" by the Australian Communications and Media Authority" (ACMA). Adults may opt-out of the "clean feed "and will be subject to the same arrangements as exist now. Senator Stephen Conroy, now the relevant minister, in a Media Release (2007) stated that a Labor Government should it be elected would:

- Provide a mandatory "clean feed" internet service for all homes, schools and public computers that are used by Australian children, so that ISPs will filter out content identified as prohibited by the Australian Communications and Media Authority. The ACMA 'blacklist' will also be made more comprehensive to ensure that children are protected from harmful and inappropriate online material.
- Provide children with age-appropriate online cyber-safety resources and make sure teachers are skilled in cyber safety.
- Establish a Youth Advisory Group (YAG) to ensure the Government is kept up-to-date with issues that affect children online.
- Undertake further research into cyber-safety issues in Australia to determine where best to target future policy and funding in this area.
- Establish a permanent Joint Parliamentary Standing committee to investigate and report on cyber-safety in Australia.

It should be noted that if a Conservative Government believed comprehensive ISP filtering was feasible it would also adopt it (Riley 2006). Further, in the lead-up to the 2007 election the Conservative Government was contemplating a voluntary opt-in arrangement for ISP filtering. All ISPs were to provide for such an arrangement (Coorey 2007).

THE CURRENT REGULATORY SYSTEM

The current Australian Government system of Internet regulation is described as co-regulatory. The co-regulators are the governments of the Commonwealth, the Internet Industry and implicitly parents and guardians. The system was established under The Broadcasting Services Amendment (Online Services) Act 1999. It is a complaint driven system whereby complaints about potentially prohibited Internet content are referred to the ACMA. It uses the Office of Literature and Film Classification (OLFC) code to classify content. Prohibited and potentially prohibited content under the Act refers to Refused Classification = RC and X18+ (sexually explicit). Content that is classified Restricted = R can be accessed but must be secured by an adult verification system that in practice is a credit card. In 2007 this arrangement was extended to MA15+ (not to be accessed by children under 15 years) as was reported by the ACMA (2007). However, if a complaint is made about any content the ACMA has the authority to request vendors of approved PC filters to add it to their black list. Under the legislation the ACMA can require an ISP to take down any prohibited or potentially prohibited content and penalties are proscribed for non-compliance. ISPs are also required to provide an approved PC filter to their subscribers. However, subscribers are not mandated to install the filter. Also under the legislation a body called NetAlert is responsible for information and education about Internet security and for conducting trials into ISP and PC filtering.

The main arguments of the Labor Government in support of its claim that the current system has failed are:

1. Parents have failed and/ or are unable to protect their children from content risks.
2. ISP filtering is more effective than PC filtering.

3. The Government is responding to the parental concerns about cyber-safety for their children who are "demanding" a new approach.

Each will now be discussed.

The Labor Government argue that the existing co-regulatory system has failed to protect children from unsuitable Internet content because parents have failed to, and/or are unable to, install PC filters. It claims (Beazley 2006; Conroy 2008) that two-thirds of parents don't install the filter and the main reasons for this are cost and poor computer literacy. The small amount of relevant research we have (NetRatings 2005) confirms that 90% of the two-thirds of parents who have not installed filters do not install because of other reasons. About 50% state they did not install because they trust their children and a further 17% believe the filter is redundant because of other safeguards they use. The Internet Industry Association (IIA) (2006) dismiss the Government's claim about parental computer literacy as myth. As reported in The Age (Gilmore 2008) there was a poor take up of free PC filters offered to subscribers as part of the $189million NetAlert Program launched by the Coalition Government in August 2007. Labor argued this was confirmation of the failure of the current system. Another interpretation is that parents do not see the need for filters to protect their children from unsuitable Internet content. Of course a minority of parents are "bad" but this relates to all things not just a failure to monitor children's use of the Internet.

An associated argument is that more technically savvy children are able to deceive their parents and access content that is unsuitable and possibly harmful. Much was made of research conducted by The Australia Institute on youth exposure to pornography and its likely effects (Flood and Hamilton 2003a; 2003b). The research findings of "extensive" exposure to pornography and risk of harm to youth was based on a telephone news poll of about 200 16-17 year olds. However, Electronic Frontiers Australia (EFA 2003; 2006), for instance, criticized the work and compared it unfavourably with a University of New Hampshire Study (Mitchell, Finkelhor and Wolak 2003). Little is known about any causal link between viewing pornography and harm to children because of the ethics of undertaking empirical studies. In regard to adults, on balance empirical research over many decades and in many countries have not established a causal link between consuming pornography and (bad) behaviour. See Buckingham et al. (2007) and libertus.net (2006) for instance. The Australian Institute cited a few selected studies that do confirm a causal link and then this was extrapolated to children. Often those in favour of extensive regulation assert harm to children is just plain commonsense with the implication that research findings are not required.

The Labor Government claims that ISP filtering is more effective in protecting children than PC filtering. Let us make two main points. First, we can summarise the general effectiveness of filters as able to perform well with commonly accessed English language websites that contain sexually explicit content. However, over-blocking and under-blocking occurs in about 25% of test cases (ACMA 2008b; Deloitte 2006; RMIT 2006; CSIRO 2001). This increases for other content types. Currently, filtering is more effective if it is index-based; either URL based or IP address based. A problem with the latter is that it is prone to overblocking (ACMA 2008b; RMIT 2006; CSIRO 2001). Content analysis filtering uses artificial intelligence or "guessing machines" to analyse the content of a web page prior to deciding whether it is blocked. Ovum (2003) suggests that content analysis would not be effective where a great deal of content, and of different genres, is involved as is likely with the "clean feed". The ACMA (2008a) Report states that filtering of dynamic content is rudimentary but more developed solutions will emerge in the future, At the ISP level it would appear the most effective filter is URL based. However, there still remains the issue of identifying unsuitable content for children that is not yet on the URL "black list" so children are not protected.

Second, as the ACMA (2008a) Report states, filters are yet to develop to an acceptable level of effectiveness to address real-time online communications. It states that filter vendors are trying to keep pace with emerging Internet technologies and changing risk profiles especially communication risks such as illegal sexual contact, online fraud and cyber bullying. The Report concludes that most filters deal with communication risks by completely blocking access rather than filtering the content of applications that permit high levels on interactivity, such as social networking sites, IM and chat.

The Labor Government argues that they are responding to parental concerns about cyber-safety for their children who are demanding a new approach. The available evidence suggests that this is not the case and three points may be made in support. First, a DICTA (2005) Report does not indicate a high level of complaints received from parents over the years of the co-regulatory scheme's operation. The total number of items (web pages and newsgroup postings) that the ACMA identified as prohibited over five and half years was 3,236. Of these 334 items hosted onshore were ordered to be taken-down and 2,902 items hosted offshore were notified to vendors for adding to their black-lists. As the EFA (2006) argues this is not evidence for a high level of parental concern given that the popular search engine Google provides Internet users with access to more than 8 billion web pages, more than 1 billion images and a Usenet archive of over a billion messages.

Second, as indicated previously parents are likely to be more concerned about communication/ contact and e-security risks rather than content. Recent media exposure about events like cyber-bullying and sexual contact with children has ensured this is foremost in parent's minds. Blocking content through ISP filtering addresses Web 2.0 risks only incidentally.

Third, it should be noted as with Fifth Estate (2007) citing official statistics that only 27% of Australian households have children. If there exists widespread parental concern and they are demanding a new approach than it comes from a minority of Australian households. Would it not be better (and cheaper) to encourage the development of a "clean feed" ie a white-list for those households "concerned". There has been little "take-up" of white–list products and this may suggest widespread parental concern does not exist. Mandatory ISP filtering would apply to all and thus take choice and responsibility from everyone.

THE FEASABILITY AND PRACTICALITY OF A CLEAN FEED

If a "clean feed" is to be legislated for then it must be technically feasible and practicable in implementation and operation. The Labor Government cites overseas practice, especially in the UK as evidence it can work. Others are sceptical. Three main areas for discussion are:

1. Is a "clean feed" feasible?
2. Is a "clean feed" practicable?
3. Is an opt-out mechanism practicable?

The Labor Government believes a "clean feed" is technically feasible (Conroy 2007; Beazley 2006). Others (ALIA 2008; Coonan 2007; IIA 2006) are not so sure. Conroy (2007) cites overseas experience as evidence it can work and welcomed a recent report (ACMA 2008) that he claimed supported his assertion. However, on close reading of the Report one needs to be more circumspect. The Labor Government especially cites the success in the UK of BT and Telnor Systems. However, this arrangement only blocks child pornography and then only 10-15%. The Government appears to be promising parents that a "clean feed" will block prohibited content that is RC and X18+. Even if this was possible it would leave much content that would still be considered unsuitable for children. However, there is every indication that a clean feed would attempt to block R18+ and MA15+ content as well even if the content is protected by an adult verification system. This will complicate the task and increase the chances that it is not technically feasible. The Government conducted laboratory trials in Tasmania in 2008 to test the feasibility of ISP filtering .The results were published in ACMA (2008b). Currently, an ISP filtering live pilot is being undertaken with results due in the first half of 2009.

Apart from the technical feasibility of the "clean feed" is the question of whether it is practicable to implement and administer. It will be physically impossible for ACMA staff to find and classify potentially prohibited content as required under existing legislation let alone if that list is substantially expanded. Indeed what is required is the identification of potentially prohibited content from millions of pages of the WWW The only way would be to treat the Internet in an entirely different and more rigorous way than offline media. The OLFC classification system would at best, be roughly mapped to vendor classification systems or, at worst, the Australia Government decides to abandon its own classification code to commercial foreign vendors.

What of the practicality of the adult opt-out mechanism? It should be noted that there exists a lack of clarity about what exactly adults may be able to opt out of. This is because the Minister refuses to give a definite reply to questions. Libertarians fear that adults may not be able to opt out of R18+ and MA15+ content that is readily and legally available offline. Recently, it was reported (Moses 2009), that Minister Conroy under pressure from many quarters stated that mandatory filtering would be restricted to content refused classification.

In a family situation there will be the issue of multiple log-ins with at least one login for adults and one for the children. At the ISP level this may prove technically challenging not to mention the increased cost. Indeed, who will pay the cost of ISP filtering and the opt-out mechanism? Will ISPs for instance be free to charge a two-tier payment system so that those adults who opt-out are not subsidizing those who use filtering technology? If they are then there is added incentive for more adults to opt-out. In the Beazley (2006) Media Statement assurances were given that "Labor recognizes the introduction of this filtering will impose costs on Internet Service providers. We will work with industry to ensure this service is provided at no extra cost to the householder. We will ensure that the costs of providing a clean feed are shared fairly and competition is not adversely affected, particularly for small providers".

At the household level there is the inconvenience at best and technically challenging at worst for households to re-configure their ADSL or their cable modem as the user changes from adult to child or vice versa. At the ISP level how will an ISP know that the person requesting the opt-out is an adult? Will it mean for instance that documentary evidence be provided similar to when undertaking a financial transaction for instance or will there be a need to present in person. Again in regard to

different groups of children based on age or psychological state or whatever there is no provision to differentiate access with a clean feed. What of parents who opt out and then allow their children to access material others have decided as unsuitable or make use of PC-based filtering to differentiate access. Will this be made illegal and where would the onus of proof rest? Would the parent for instance have to prove that a mistake was made if the child accessed anything other than "clean feed" content?

It should be noted that under the Labor proposal the "clean feed" is to be provided not only to Australian households but also to other public points like libraries, schools and internet cafes. How would an adult opt-out in an Internet café for instance? Would ISPs be expected to provide two feeds to the café? If this be the case then the café would need to adopt processes that enabled this to occur. Perhaps a dedicated room would need to be set aside for each feed and no child allowed to enter the opt out feed room. Each adult would have to indicate whether they were opting out or not and sent to the correct room.

SUBSTANTIAL NEGATIVE IMPACTS OF A CLEAN FEED

Even if it proved that a "clean feed" with adult opt-out was technically feasible and practicable there are still a number of negative impacts that may provide a case strong enough to convince the Government not to legislate for it. Four such impacts are identified and discussed here. They are:

1. Unacceptable slowing of the Internet.
2. Violation of personal privacy.
3. Violation of free speech.
4. Risk of function creep.

Whether or not ISP filtering results in unacceptable slowing of the Internet through network degradation is subject to claim and counter-claim. Riley (2006) cites the then Labor opposition IT spokesperson as claiming that "government research showed the blacklist ISP filtering system would have minimal impact on network performance". Also attributed to Minister Conroy is the claim that "in 2004 the Government received independent advice that ISP filtering to remove blacklisted sites would take just 10 milliseconds and that delay is generally not noticeable to the user". He was of course referring to the former Conservative Government. However, in the same newspaper article the then Conservative Minister is reported to have claimed "that studies confirm the level of degradation was not workable". There have been a number of Government sponsored studies on ISP filtering (ACMA 2008b; RMIT 20006; Ovum 2003; CSIRO 2001, 1999a, 199b, 1998). The general conclusion of the previous studies has been that ISP filtering would result in unacceptable slowing of the Internet. The most recent ACMA (2008b) study showed the average performance degradation across the 6 filters tested as over 40%. Nevertheless, despite the negative findings the Labor Government is currently conducting a live pilot test with ISP providers.

 The Internet Industry Association (IIA) is the co-regulator with the Federal Government of the current system. It has been a consistent critic of ISP filtering and cites (IIA 2006) Australian and overseas research that confirms that" server filtering solutions will have significant adverse impacts on network performance". The Labor Government claims overseas success stories of ISP filtering especially in the European Union. Minister Conroy in a Media Release (2008a) for instance claimed that a recent ACMA (2007) Report notes "that a number of overseas countries currently filter their content. ISPs in a number of countries such as the United Kingdom, Sweden, Norway and Finland have successfully introduced ISP level filtering". However, the Report makes no such claim, and, to the contrary states that "filters are most likely to effect network performance when large indexes are used and/or complex analysis of content is undertaken". This is of course the Labor Government's proposal. libertus.net (2008b) has summarised the situation for the European Union (EU) and a range of non-EU countries to demonstrate that they have not adopted mandatory ISP filtering as envisaged by the Government.

The Labor Government has particularly cited the UK and the BT Clean Feed. However, this is a single index and relates only to child pornography. As mentioned previously the ACMA (2007) Report notes only 10-15% is successfully blocked. It is also worth noting that the proper reference for the imitative is BT Anti Child Abuse Initiative and it is designed to prevent accidental access to URLs on the Internet Watch foundation (IWF) blacklist. See the article by Leyden (2004) for instance. This is very different from what Labor proposes.

In conclusion, the weight of evidence suggests that ISP filtering would result in an unacceptable slowing of the Internet. As technology develops there may come a time when ISP filtering or similar will not lead to network degradation and be more effective in blocking what is intended to be blocked and to not block what is intended not to be blocked. However, even if this were the case those who are dedicated to Internet free speech and personal privacy would argue against ISP filtering, indeed most forms of Internet censorship.

Electronic Frontiers Australia (EFA) and libertus.net are organizations that are dedicated to Internet free speech. Not surprisingly they are strong critics (libertus.net 2008a; EFA 2006; 2003) of both the current and proposed system of Internet regulation. Libertarians argue against what they claim is comprehensive censorship of both the online and offline media in Australia. The OLFC Guidelines state that adults should be able to read, hear and see what they like as long as it is deemed legal. However, children should be protected from potentially harmful content. In matters of censorship these two principles must be addressed and the "correct" balance struck. Libertarians argue that the "correct" balance has not been struck and the high level of censorship in Australia is not justified. Indeed, many Libertarians find fault with the law that proscribes X rated sexually explicit or religious and racial vilification content for instance. Even if mandatory filtering is confined to refused classification content it should be noted that such material not only contains sexually explicitness and violence but would certainly include what the OLFC refers to as adult themes. This includes suicide, crime, corruption, marital problems, emotional trauma, drug and alcohol dependency, death and serious illness, racism and religious issues. Libertarians would generally argue that these types of speech should not be censored in a society the claims to be open whether it be offline or online. However, the Government apparently believes that the ISP filtering debate is not an argument about freedom of speech because we have the assurance of the Minister Conroy (2008b) it does not intend to block "political" speech.

Under the current arrangement it is difficult to know what content the ACMA treats as prohibited or potentially prohibited. This is because the ACMA refuses to publish the relevant information. This lack of transparency will worsen if a large amount of additional content is to be blocked to provide the "clean feed". However, as mentioned previously there is a risk that the Labor government will increasingly abrogate its responsibility for identifying and blocking certain Internet content to overseas commercial vendors. Then the decisions about what Australian children and adults can read hear and see will be in the hands of foreigners and their "guessing machines".

Beazley's Media Release (2006) states that adults who opt out of the "clean feed" would be able to access Internet content permitted under the current system. Internet content that is RC or X18+ is treated as prohibited content. Internet content classified R18+ can be accessed so long as it is prohibited by an adult verification system. The 2007 amendment of the Online Services Act to include MA15+ to also require an adult verification system will probably increase the desire for more adults to opt out of the "clean feed". However, there is force that may work against this desire. Adults who wish to access legal Internet content that many others consider offensive will have to inform ISP staff of this personal preference. This information will be stored and will be at risk of unauthorised use or access and not being secured. Indeed questions may be asked as to why you wish to opt out and this may lead to Government monitoring. The opt-out may be considered as a violation of personal privacy and act as "chilling" free Internet speech.

There is plenty of precedent where something has been legislated for (or against) but this has resulted in unforeseen consequences. Legislation passed for one purpose can with interpretation or amendment be used for another. This can be described as function creep. Governments are wont to assure us that in legislating for or against X its scope is limited to X. When challenged that such legislation can also apply to Y and Z or that it is a short step down the "slippery slope" to Y and Z it denies such to be its intention or worse simply asks us to trust it. As function creep occurs over time it is usually defended on the grounds that "it is only logical" or "it is economical" or both. To return to free speech Libertarians argue that it is fundamental for an open society but recognize it is a "fragile flower". They argue that over time Governments in Australia has progressively legislated against all manner of speech much of which can be described as function creep. In the case of Internet content Australians were assured in 1999 by the legislators of the co-regulatory scheme that the censorship regime would be applied to the Internet in the same manner as for offline media. This has not proved to be the case. The proposal for ISP filtering is the next step to comprehensively censor the Internet. Consistent with function creep is the possibility of the future "realization" by the Australian Government that adult opt-out creates technical difficulties and/ or high costs. The Government could easily defend amending legislation that removed the adult opt-out on the grounds or logic or economics or both. Even if assurance are given by the Labor Government that it would not remove the opt out mechanism a future Conservative Government, for instance, would not be bound by this assurance particularly as it is inclined to the same arrangement.

SUMMARY AND CONCLUSION

This paper has addressed three key questions concerning the Australian Government's policy to mandate ISP filtering to provide a "clean feed" to all subscribers. First, has the current co-regulatory system failed to protect children from unsuitable Internet content? Those who argue the affirmative claim that parents have failed and/or are unable to protect their children. In addition, parents have expressed concerns about the cyber-safety of their children and are "demanding' a new approach. The Labor Government has responded by claiming that ISP filtering is more effective than PC filtering. The major counter-argument is that parents do monitor their children's access to the Internet and that many do not see the need for filtering of any kind. Moreover, a case can be made that ISP filtering is less effective than PC filtering.

Second, is the "clean feed" feasible and practicable? The Labor Government claims that it is feasible and cites overseas experience to supports its position. Others argue that such evidence does not exist and the weight of technical studies suggests that what the Government appears to have in mind is not technically feasible at this time. Moreover, there are many practical problems associated with the implementation and administration of a "clean feed" and with the adult opt-out mechanism. To date the Government has not provided any specific details on these matters.

Finally, even if the "clean feed" is found to be feasible and practicable, will it generate substantial negative impacts that ought to convince the Labor Government not to legislate for it? These impacts include whether or not ISP filtering will result in unacceptable slowing of the Internet. The latest test suggests substantial degradation of Internet performance which is consistent with others sponsored by both Labor and Conservative Governments over many years. Other impacts include whether it will result in violation of personal privacy and suppression of speech. Finally, there is the risk of functional creep with a future risk that the adult opt-out mechanism will be dispensed with.

In conclusion, the weight of evidence and argument would seem to suggest that there are sufficient risks and potential problems that the Labor Government would be wise to not legislate for mandatory ISP filtering to Australian Internet subscribers. Other countries would also be wise to not follow the Australian Government should it choose to legislate.

REFERENCES

Australian Communications and Media Authority (ACMA). 2008a. Developments in Internet Technologies and Other Measures for Promoting Online Safety. *First Annual report to the Minister for Broadband, communications and the Digital Economy*. February.

Australian Communications and Media Authority (ACMA), 2008b. Closed Environment Testing of ISP Level Internet Content Filtering: *A Report to the Minister for Broadband, Communications and the Digital Economy*. June.

Australian Communications and Media Authority (ACMA). 2007. New rules for age-restricted internet and mobile content. *Media Release 21 December.*

Australian Library and Information Association (ALIA). 2008. ALIA's ten questions on censorship for senator Stephen Conroy. *Media Release 8 January*.

Beazley, K., 2006. Labor's Plan to protect Kids from Internet Pornography. *Media Statement 20 March*

Buckingham, D., et al. 2007. The Impact of the Media on Children and Young People with a particular focus on computer games and the Internet. *Prepared for the Byron Review on Children and New Technology. Commissioned by the Department for Children, Schools and Families.* Centre for the Study of Children, Youth and Media, Institute of Education, University of London. December.

Coonan, H., 2007. NetAlert – Protecting Australian Families Online. *Speech Adelaide Launch 4 September.*

Coorey, P., 2007. Veto for parents on web content. *Sydney Morning Herald 10 August.*

Conroy, S., 2007. Labor's Plan for Cyber Safety. *Media Release 21 March.*

Conroy, S., 2008a. Government welcomes ACMA report on interent filtering. *Media Release 21 February.*

Conroy, S., 2008b, DBCDE Blog, *This is an attack on freedom of speech*, http://www.dbcde.gov.au date accessed January 19 2009.

Commonwealth Scientific and Industrial research Organisation (CSIRO). 2001. Effectiveness of Internet Filtering Software Products. *Report prepared for the Australian Broadcasting Authority*. September.

Commonwealth Scientific and Industrial research Organisation (CSIRO). 1999a. Access Prevention Techniques for Internet Content Filtering. *Report prepared for the National Office for the Information Economy*. December.

Commonwealth Scientific and Industrial research Organisation (CSIRO).1999b. Technical Aspects of Blocking Internet Content. *Report prepared for the National Office for the Information Economy,* April.

Commonwealth Scientific and Industrial research Organisation (CSIRO).1998. Blocking Content on the Internet: A Technical Perspective. *Report prepared for the National Office for the Information Economy*. June.

Deloitte., (2006). Safer Internet: Test and benchmark of products and services to filter internet content for children between 6 and 16 years. *(Synthesis Report). Prepared for European Commission, DG Information Society –Directorate E.*

Department of Communications Information Technology and the Arts (DICTA). 2005. *Six-month Report on the Online Content Co-regulatory Scheme – Reporting Period 11: January to June 2005*. October.

Electronic Frontiers Australia (EFA). 2006. Labor's Mandatory ISP Internet Blocking Plan. http://www.efa.org.au/Issues/Censor/mandatoryblocking.html date accessed 12 December 2007.

Electronic Frontiers Australia (EFA). 2003). Comments on Mandatory Filtering and Blocking by ISPs. http://www.efa.org.au/Publish/ispblocking.html date accessed 17 April 2003.

Fifth Estate. 2006. Who wants a clean feed? http://fifthestate.rmit.edu.au/showprint.php?articleID=833 date accessed 12 December 2007.

Flood, M., and Hamilton, C., 2003a. Youth and Pornography in Australia: Evidence on the Extent of Exposure and Likely Effects. *Discussion Paper Number 52*. The Australia Institute, February.

Flood, M., and Hamilton, C., 2003b. Regulating Youth Access to Pornography. *Discussion Paper Number 53*. The Australia Institute, March.

Gilmore, H., 2008. Web porn software filter a dud. *The Age 17 February*.

Internet Industry Association (IIA). 2006. Mandatory Server Level Filtering. http://www.iia.net.au date accessed 10 April 2008.

Leyden, J., 2004. BTs modest plan to clean up the Net. http://www.theregister.co.uk/2004/06/07/bt_cleanfeed_analysis date accessed 16 April 2008.

libertus.net. 2008a. Australian Gov. Mandatory ISP Filtering/ Censorship Plan. http://libertus.net/censor/ispfiltering-au-govplan.html date accessed 10 April 2008.

libertus.net, 2008b. ISP Voluntary/ Mandatory Filtering. http://libertus.net/censor/ispfiltering_gl.html data accessed 13 January 2009.

libertus.net. 2006.Studies and Research on Media Effects. http://libertus.net/censor/studies.html date accessed 19 September 2007.

Mitchell, K., Finkelhor, D., and Wolak, J. 2003. The Exposure of Youth to Unwanted Sexual Material and the Internet: A National Survey of Risk, Impact and Prevention. *Youth and Society, Vol. 34, No. 3, March.*

Moses, A., 2009. Conroy Backtracks on Internet Censorship Policy. *The Age.com.au 1 April.*

NetRatings Australia Pty Ltd. 200). Kidsonline@home. *Internet use in Australian Homes*. April.

Ovum. 2003. Internet Content Filtering. *A Report to DICTA*. 4 April

Riley, J., 2006. Pressure builds for Censorship. *AustralianIT 3 November*.

RMIT. 2006. A study on Server Based Internet Filters: Accuracy, Broadband Performance Degradation and Some Effects on the User Experience. *Prepared for NetAlert*. May.

The Australia Institute. 2003. Filter porn from net – Institute. *Media Release 4 March.*