Electoral Council of Australia & New Zealand

Internet voting in Australian election systems

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Contents

List of Acronyms and Abbreviations used

ACT	Australian Capital Territory
ABS	Australian Bureau of Statistics
ACMA	Australian Communications and Media Authority
ADF	Australian Defence Force
ADSL	Asymmetric digital subscriber line
AEC	Australian Electoral Commission
ATM	Automatic Teller Machine
ATSIC	Aboriginal and Torres Strait Islander Commission
BLV	Blind and low vision
BTL	Below the line
DFAT	Department of Foreign Affairs and Trade
DRN	Defence Restricted Network
ECA	Electoral Council of Australia
ECANZ	Electoral Council of Australia and New Zealand
EMB	Election management body
EVM	Electronic Voting Machine
FFS	Fee-for-service
FIFO	Fly-in, fly-out
ICCPR	International Covenant on Civil and Political Rights
International IDEA	International Institute for Democracy and Electoral Assistance
IP	Internet Protocol
IPU	Inter-Parliamentary Union
JSCEM	Joint Standing Committee on Electoral Matters
NSWEC	New South Wales Electoral Commission
NIST	National Institute of Standards and Technology
NTR	National Tally Room

Ofcom	The Office of Communications
SDAC	Survey of Disability, Aging and Carers
SERVE	Secure Electronic Registration and Voting Experiment
SMS	Short Message Service
TAB	Totalisator Agency Board
TCP/IP	Transmission Control Protocol/Internet Protocol
TEC	Tasmanian Electoral Commission
UOCAVA	Uniformed and Overseas Citizens Absentee Voting Act
VEC	Victorian Electoral Commission
WAEC	Western Australian Electoral Commission

Internet voting in Australian election systems

1. Introduction

1.1 This paper has been commissioned by the Electoral Council of Australia and New Zealand (ECANZ) and prepared by the Australian Electoral Commission (AEC).

Aims

1.2 The issue of internet voting is one of the more testing ones currently faced by election administrators, not least because of the diversity of views which it generates. Proponents of such a use of the internet see it as a potentially powerful, and perhaps inevitable, way of enabling electors, or certain categories of electors, to vote in a convenient and efficient way.[1] In the long term, it holds out the revolutionary prospect that the classical vision of direct democracy could be realised, with voters being able to make fast collective decisions on a wide range of issues.[2] Opponents of internet voting see it as giving rise to major risks to the integrity of electoral processes. There is a large and rapidly growing literature on the subject.[3]

1.3 The aims of this paper are:

- to explore a range of significant issues relevant to community consideration of the appropriate role for internet voting in Australia; and
- to identify some areas where internet voting may have potential value (subject to the satisfactory resolution of outstanding technical issues and a determination that any residual risks can be mitigated or deemed acceptable), and therefore to warrant more detailed consideration.

1.4 The focus of this paper is solely on the potential use of the internet for elections for public office, and for referendums or other ballots conducted as part of the political process. Elections and ballots for private organisations, or for non-political purposes (such as polls conducted under the *Fair Work Act 2009* and the *Fair Work (Registered Organisations) Act 2009*) fall outside the scope of this exercise.

[1] For an elaboration of this view which focusses on Australia, see Hill and Alport (2007).
[2] This concept was put forward satirically in the 1960s British film *The Rise and Rise of Michael Rimmer*, and has been more recently elaborated by Morris (2001).
[3] For relatively comprehensive analyses of different aspects of internet voting, see Alkassar and Volkamer (2007), Alvarez and Hall (2004), Alvarez and Hall (2008), Barrat i Esteve, Goldsmith and Turner (2012), Hill and Alport (2011), Holmes (2012), International IDEA (2011) and Jones and Simons (2012).

1.5 It is important to emphasise that the long history of free and fair elections in Australia and New Zealand provides the context for this analysis. Broadly speaking, all jurisdictions in those countries have succeeded in delivering the franchise effectively over a sustained period of time, through credible and transparent elections which have enjoyed high levels of community trust. Internet voting has not been put on the agenda as a result of any particular crisis or discordance with the way elections are currently conducted.

Time horizon

1.6 The internet has proven to be one of the most dynamic phenomena of our times. From a network originally developed for a relatively small group of institutional users, it has grown into a key component of people's lives all over the world. The growth has been accompanied by changes in typical forms of access to the internet: from desktop computers in offices and homes, to internet cafes, and now to tablet devices and smartphones. In parallel, new applications such as Facebook and YouTube (neither of which were in existence ten years ago) have created opportunities for new forms of internet use which have become social and cultural phenomena.

1.7 This highlights the considerable difficulty of anticipating the role which the internet will play in day-to-day life only a few years hence. Realistically, this paper cannot aspire to a prescience which will enable permanently valid conclusions about the place of internet voting to be reached. For that reason, the analysis does not seek to look forward further than the next five years. Note is, however, taken of longer term trends which look at this point to be irreversible, such as the increased use of the internet for publication and communication, and the resulting decline in print publication, and in mail services dedicated to the distribution of hardcopy documents.

Technical issues relating to the security of the internet

1.8 Some of the most vexed questions relating to internet voting, and in particular remote internet voting, flow from concerns about internet security.[4] These issues have

[4] In a widely discussed and controversial case, concerns on the part of computer scientists about internet security led the then US Deputy Secretary of Defence, Paul Wolfowitz, to cancel in 2004 the *Secure Electronic Registration and Voting Experiment* (SERVE) which had been intended to test mechanisms for providing voting facilities to US voters covered by the *Uniformed and Overseas Citizens Absentee Voting Act* (UOCAVA), many of whom were military personnel and their dependents. For a discussion of this, see Alvarez and Hall (2008, pp. 77-90). For a recent study which sets out a wide range of potential technical risks associated with internet voting, see Jones and Simons (2012; ch. 11). Ongoing projects which involve research on internet voting include the Caltech/MIT Voting Technology Project (http://vote.caltech.edu/) and those pursued by the US Department of Commerce's National Institute of Standards and Technology (NIST) (http://www.nist.gov/itl/vote/) pursuant to its mandate under the Help America Vote Act of 2002.

been examined in some major research undertakings, and the literature is a large and evolving one.[5]

1.9 There would be little to be gained from seeking here to replicate detailed studies of the problems of internet security of the type which have been or are being undertaken in many parts of the world, for the following reasons.

- Any "snapshot" of the situation at a particular time has the potential to be overtaken by events: either the emergence of new threats, or the development of new "fixes", responses or mitigation strategies. There is little prospect of being able to arrive at conclusions about the status of the internet's insecurities which would be valid up to the five year time horizon of this paper.
- Many of the problems which have been identified with the security of the internet have the character of vulnerabilities or potential risks, rather than matters which give rise to a certainty of failure in a particular case.

[5] A recent study conducted under the auspices of the US Department of Commerce's National Institute of Standards and Technology (Hastings, Peralta, Popoveniuc and Regenscheid (2011)) offers the following conclusions:

> "This paper identified desirable security properties of remote electronic voting systems, threats of voting over the internet from personally-owned devices, and current and emerging technologies that may be able to mitigate some of those threats. Based on the capabilities of current computer security and voting technologies, the following three issues remain to be significant challenges faced by remote electronic voting systems.
>
> First, remote electronic absentee voting from personally-owned devices face a variety of potential attacks on voters and voters' personal computers. Since the voter's personal computer is outside the control of election officials, it is extremely difficult to protect against software attacks that could violate ballot secrecy or integrity or steal a voter's authentication credentials. These are serious threats that are already commonplace on the internet today.
>
> Second, remote electronic voter authentication is a difficult problem. Current technology does offer solutions for highly-secure voter authentication methods, but these may be difficult or expensive to deploy. Personally-owned computers may not be able to interface with these methods, such as having the necessary smart card readers for cryptographic authentication using Common Access Cards or Personal Identity Verification cards.
>
> Third, it is not clear that remote electronic absentee voting systems can offer a comparable level of auditability to polling place systems. Because of the difficulty of validating and verifying software on remote electronic voting system servers and personal computers, ensuring remote electronic voting systems are auditable largely remains a challenging problem, with no current or proposed technologies offering a viable solution.
>
> Many of the current and emerging technologies identified in this report are areas with active research and development. Pilot projects should be encouraged, including those involving the use of voting-specific cryptographic protocols, such as the Helios voting system …. Emerging trends and developments in these areas should continue to be studied and monitored.".

For a discussion from a proponent of internet voting who disputes these conclusions, see Kelleher (2013).

- Therefore, in practice, decision-making on whether, and if so how, to use internet voting in an acceptably secure way will need to be based on a robust risk assessment and management process which takes into account:

  - the nature of vulnerabilities;
  - the probability that they will be exploited;
  - the impacts which any such exploitation could have;
  - strategies which could be put in place to mitigate any such impacts; and
  - the willingness of relevant stakeholders (e.g. governments, political parties, parliamentary representatives, election management bodies (EMBs) and members of the voting public) to live with a particular identified level of residual risk.[6]

  Furthermore, a system which is independently certified and audited is more likely to mitigate against any new and emerging vulnerabilities, discovery and exploitation which have the potential to otherwise emerge.
- Assessments of this type cannot be made in an abstract context, but must, when undertaken, reflect a calculation based on the best available information at the time. They will inevitably reflect a mixture of hard data, information about which there may be considerable uncertainty, and value judgements.
- It is important also to emphasise that any risk assessment for the introduction of internet voting needs to be done comparatively: the key question is not whether there are risks associated with internet voting - there clearly always will be - but how the risks and benefits of internet voting compare with the risks and benefits of alternatives.

1.10 None of the foregoing discussion is intended to downplay the significance of the issues which have been identified in the literature. They have been raised both in Australia and elsewhere by scholars in the field of computer science who are likely to continue to be engaged with the issue, and need to be properly considered as part of any process which might lead to the introduction of a particular model of internet voting. That having been said, it is also clear that there are jurisdictions both in Australia and abroad which have implemented internet voting systems to the satisfaction of their communities.

Costing and planning

1.11 It follows from the points made above that it would be beyond the scope of this paper to seek to set out even tentative plans or costings for any implementations of internet voting. At a number of points below, however, factors which might give rise to significant potential costs or planning or implementation challenges are noted.

[6] For an example of such an analysis of possible voting modalities under the US *Uniformed and Overseas Citizens Absentee Voting Act*, see Regenscheid and Hastings (2008).

Outline

1.12 This paper is divided into the following parts.

1. Introduction
2. Definition and distinctive features of internet voting
3. Historical background
4. The electoral environment in Australasia
5. Rights and obligations
6. Potential motivations for the introduction of internet voting
7. Issues regarding internet voting
8. Concluding observations

Key observations

1.13 The following key observations made in the paper are put forward not as prescriptive recommendations, but as pointers to issues which jurisdictions contemplating the use of internet voting might wish to consider in more detail.

1. In Australia and around the world, internet voting has only been taken up on a comparatively limited scale for public elections. This stands in stark contrast to the way in which internet-based activities have come to dominate many other fields of endeavour, and highlights the extent to which internet voting is yet to be embraced.

2. As noted at paragraph 1.5 above, there is no emerging crisis in Australasian voting practice, such as massive failure of paper supplies, to which the only possible response is the introduction of internet voting. That having been said, it would seem inevitable that paper balloting will, sooner or later, have to be replaced by some form of electronic voting, which may or may not involve the internet. Whether or not that development will constitute a crisis in itself will very much depend on how diligently EMBs have prepared for that contingency. For that reason, prudence clearly dictates that Australian EMBs should be starting now to increase, or to continue to increase, their focus on the challenges and prospects of electronic and internet voting; to enhance their in-house expertise in the area; to further explore opportunities for cooperation in system research and development, and to undertake appropriate pilot projects where the opportunities to do so arise.

3. A shift to universal internet voting would be a revolutionary development in the Australian context, producing what might be seen as a fundamental change in the character of electoral processes. Such a change is not being advocated by any Australasian EMB, nor does it appear to be being pushed at the political level.

4. Whether the use of internet voting on a smaller scale to meet the needs of particular groups of voters would inevitably lead to its use on a larger scale is a matter worth considering.

5. Any decision-making on whether, and if so how, to use internet voting in an acceptably secure way will need to be based on a robust risk assessment and management process.

6. A number of the issues raised in this paper relate to the place of elections in Australia's system of democratic government, or to their fundamental character. While EMBs may have views on these, and be in a position to provide useful commentary or advice, they are properly matters for consideration at the societal or parliamentary level.

7. Assessments of the viability of internet voting need to be approached holistically, taking into account not just implications for polling and counting but also for campaigning. The legitimate expectations that stakeholders such as candidates, parties and scrutineers have regarding the way in which they will be able to perform their functions in an internet voting environment also need to be given full consideration.

8. Any process for the implementation of internet voting needs to be supported by a strong and informed public and political consensus in favour of such a move. The development of such a consensus is likely to be an objective realisable only in the long term, but an incremental approach, starting with pilot or small scale implementations, and proceeding at a rate with which key stakeholders are comfortable, would seem likely to provide a reasonable way forward.

9. Societies and EMBs need to assess critically and realistically the cost and resourcing implications, including opportunity costs, of the introduction of internet voting.

10. From the perspective of voter enfranchisement, the most compelling case for the use of internet voting in the short term (assuming that technical concerns about the process can be adequately addressed) would appear to arise in relation to voters for whom it would be a "game changer": those who cannot otherwise vote at all, or cannot otherwise vote secretly and personally. An initial focus on such voters

would be less problematical in terms of issues of vote secrecy and the voting environment than a more widespread use, and would be readily justifiable on the basis of the important principle of universality of access, especially for people with disabilities.

11. An initial focus on a relatively small cohort of voters could also serve as a useful risk mitigation strategy, in the sense that if problems arise, the smaller the number of voters affected, the lesser will be the probability that the result of an election will have been influenced.

12. It remains for the EMBs to engage and educate stakeholders on the impact and potential of internet voting in participating in elections.

2. Definition and distinctive features of internet voting

2.1 This Part defines "internet voting", outlines the main models for its implementation, and examines significant ways in which internet voting differs from traditional forms of paper-based voting as used in Australasia.

Definition and main models of "internet voting"

2.2 The *Macquarie Dictionary (4th ed.)* defines the internet as "the communication system created by the interconnecting networks of computers around the world." From a more technical perspective, the internet may be defined by reference to the TCP/IP communication protocol which underpins the connections between those networks, and between the computers which form part of them.[7] The use of this common protocol facilitates the operation not only of the familiar World Wide Web but also internet email, file transfers using the File Transfer Protocol, and internet instant messaging.

2.3 It follows that the internet, so defined, gives rise to a number of different possible modalities for "internet voting". Perhaps the simplest is "**email voting**": it is possible for blank ballot papers to be sent to voters, who complete them, scan them in some way, and return them to the EMB either as an attachment to an email message, or as a document directly uploaded to a webpage provided by the EMB.[8]

2.4 More sophisticated approaches make use of the World Wide Web to obviate the need for a paper ballot. Voters under these approaches connect to a webpage, identify themselves and follow a process intended to establish their credentials as voters, are then

[7] It should be noted at this point that the term "computer", in this context, increasingly encompasses not only traditional desktop or laptop machines, but also "smartphones" and "tablet" devices. This issue is discussed further at paragraphs 4.15 to 4.22 below.

[8] The despatch of blank ballot papers to voters could be done in a range of different ways, including sending in hardcopy (as with postal votes), faxing, emailing as an attachment, or providing a facility for downloading through a website.

presented with the candidates, parties or options between whom or which they must choose, and record their choices directly. Such "web-based" voting can in practice be implemented in a number of different ways.

- "**Kiosk voting**": Access to the relevant web page may be made available only at "internet kiosk" sites under the control of the EMB. Under such an approach, the EMB would maintain a relatively high degree of control not only of the hardware used by the voters, but also of the environment in which the vote was cast.
- "**Mobile internet voting**": Such access could also be made available away from such sites, but using systems managed and delivered by the EMB. For example, electoral visitors or mobile polling teams could visit voters in their homes or localities, taking with them portable devices with internet connections which the voters could use to vote.
- "**Remote internet voting**": Under the most expansive model possible, voters would be able to access the web page for voting using any computer or device capable of being connected to the World Wide Web. The EMB would have only limited control of the hardware used by the voter, and little or no control over the environment in which the vote was cast.

The previous use in Australia of a number of these modalities is discussed further at paragraphs 3.6 to 3.23 below.

2.5 It is important to highlight at this stage a number of methods of voting which use technology more advanced than paper and pencil, but which do not fall within the definition of internet voting, and therefore are not considered here. These include:

- voting by fax;
- voting through a call centre;
- remote telephone voting;
- SMS voting; and
- voting using computers or custom-built electronic voting machines which are configured as stand-alone devices or are connected together on an isolated local area network and are not linked to the broader internet using the TCP/IP protocol.

The last three of these constitute forms of "electronic voting", of which internet voting is another sub-category.

Distinctive features of internet voting

Electronic transmission of ballots

2.6 Every model of internet voting includes the electronic transmission of ballots. While hard copies may under some approaches be produced as a means of hard copy

verification, the transmission of the content of the voter's ballot is invariably in digital form. Examples of hard copy processes are:

- production and completion of a ballot paper by the voter as part of an email voting process;
- production of printed output from a machine used in kiosk voting or mobile internet voting; and
- possible production as an output during an intermediate stage in the counting of remote internet votes.

This represents a fundamental change from paper balloting, with implications for the evidence which might be put before the Court of Disputed Returns in the context of an election petition.

Transparency of the process

2.7 Electronic transmission impacts directly on the nature of the transparency of the electoral process. With paper balloting, the voter typically has a sense that his or her ballot is in official custody from the time at which he or she casts it either by depositing it in a ballot box or committing it to a postal service. This perception is also often important to candidates and parties. As there is no physical ballot paper being transmitted in internet voting, different mechanisms are needed to confirm the integrity of votes, and different techniques, based on different skills, have to be used by scrutineers.

2.8 Remote internet voting and email voting by definition take place in an unsupervised environment, outside the purview of scrutineers, which may diminish the latter's sense of their ability to be directly satisfied that votes have been cast without any intimidation, coercion or corruption. This is also true of postal voting, and this factor will therefore be of lesser significance if remote internet voting is merely used as a substitute for postal voting. It will become more salient if the availability of internet voting has the effect of stimulating more people to vote in an unsupervised environment.

Ballot interface

2.9 With kiosk, mobile or remote internet voting, the voter records his or her vote on an electronic device, rather than a ballot paper. This gives rise to both opportunities and challenges.

- The interface may be enhanced to better meet the needs of specific groups of voters. Blind and low vision voters may be given the capacity to vote without assistance, as discussed at paragraphs 6.6 to 6.10 below. Access may be provided to multilingual instructions, possibly in audio form or even video form, for the benefit of voters who cannot read. Multilingual text instructions are currently a feature of Elections ACT electronic voting system. Candidates' how-to-vote

recommendations may be able to be provided to voters who otherwise could not access them. Other mooted design ideas include the options of translations appearing above the digitally displayed ballot papers. The possibilities offered by enhanced interfaces are significant from an enfranchisement perspective.

- EMBs may however face a challenge in designing an interface which reflects what are often seen as the desirable (or even essential) features of a ballot paper. Over the years much effort has gone into subtle design features of paper ballots, including the random ordering of candidates or groups, or the rotational printing of ballots; and these features are typically aimed at achieving the specific objective of enhancing the neutrality of the ballot, and eliminating or reducing the impact of so-called "positional voting" effects (such as the "donkey vote").
- Large ballot papers such as those often used for single transferable vote proportional representation can be especially difficult to replicate in an electronic context, particularly if voters are using small devices such as tablets or mobile phones as their mode of internet access. (It might, for example, seem reasonable to suggest that Senate voters could be asked if they wished to vote "above-the-line" or "below-the-line", and then be presented with an appropriate representation of the relevant part of the ballot paper. This, however, could well give rise to reasonable protests from ungrouped candidates or candidates without a box above the line, who could complain that it would be possible for someone to vote without ever being shown their names on the ballot.)

Formality checking

2.10 Kiosk, mobile or remote internet voting can be configured so as to maximise formal voting.

- The system may be configured to ensure that accidental numbering errors cannot be made. In most computerised systems of preferential voting, the voter clicks successively against individual candidates, and the system allocates the next available preference with each such click.
- Alternatively, the system may permit the voter to insert numbers, but be programmed to provide a warning message if the numbers so inserted are defective.

Email voting does not have this feature.

Timing of internet voting

2.11 Electronic transmission of ballot information has the potential to make it possible to remove some of the time constraints which are inherent in the main current form of remote voting, postal voting. Voters, being no longer dependent on postal services (possibly of

two different countries) to either receive or return their ballots, may be able to vote from shortly after the close of nominations until the close of the poll.[9]

Geographical coverage

2.12 For many voters, remote internet voting or email voting has the potential to provide better geographical coverage than postal voting, enabling them to vote with ease in a much wider range of places (potentially anywhere that an appropriate internet connection can be accessed). This effect is only likely to increase over time, as postal services are wound back in response to a decreased demand for standard letter services.[10] This benefit extends beyond jurisdictional borders and EMBs have reported difficulties in providing and receiving voting and ballot materials overseas due to transit delays and tight legislative timelines.

Re-voting

2.13 A fundamentally distinctive feature of some models of internet voting is their ability to permit people who have cast an internet vote to re-vote, over-riding their earlier vote(s). In these cases, an EMB is required to connect an elector's identity with their original vote in some way, which is not currently legal in Australia and would need to be considered for any future legislative change. Some argue that re-voting provides a degree of protection to persons using remote internet voting or email voting who may have felt pressured or coerced to cast an earlier vote in conflict with their true preferences. The extraction of earlier votes in an electronic environment is simpler than when paper ballots are involved, and is facilitated in countries where a common system, such as a national identity card, can be used online and at polling places for confirming the identities of all voters definitively.

Separation of the processes of voter identification and voting

2.14 When voting takes place at a polling place, the process of identifying the elector and confirming his or her right to vote by reference to a roll is manifestly separated from the process of marking and casting the vote. This can be replicated at kiosk or mobile internet voting, but in the case of email voting and remote internet voting, the separation of the vote from the particulars of the elector who cast it is unlikely to be immediately visible to the voter, nor is it capable of being directly observed by scrutineers in the way in which the separation of postal ballot papers from declaration envelopes can be observed.

[9] The precise definition of the last time at which a person is permitted to cast an internet vote is an important detail to be addressed if voters are spread over multiple time zones, as could often be the case.

[10] Internet voting gives rise to the possibility that the internet protocol (IP) address of the computer used to transmit a vote may be recorded. It is worth noting, however, that such addresses can be an unreliable guide to the exact geographical location of the voter.

Registration for internet voting

2.15 Most models of internet voting require the potential voter to undertake a specific process of registration, separate from normal electoral enrolment. This may be configured so as to require proof of identity beyond what is normally required when casting a vote at a polling place. An alternative would be to treat all voters as potential internet voters, and provide them up-front with some sort of credential which they could use to vote.[11]

Confirmation that a vote has been properly processed

2.16 It is often argued to be desirable, not least to build confidence in a new internet voting system in the short term, that individual voters should be able to confirm that their internet votes have been properly processed; and various different schemes, reflecting different philosophies and perceptions of risk, have been proposed or adopted to this end. Some involve enabling a voter to access the database of votes already cast and to be advised of the preferences which he or she has recorded. Such methods of access may be supplemented by the use of cryptographic techniques to ensure that any such data will be meaningful to the voter but not to anyone else, so that potential vote buyers or voter intimidators will not be able to be given evidence that their tactics have succeeded.[12] Mechanisms of this type will normally be supplemented by specialised processes for auditing the way in which the system handles votes which have been cast.

2.17 Such processes differ fundamentally from those applicable at polling places, where the vote is intended to become anonymous at the moment it is cast, and confirmation of its correct inclusion in the count comes from the handling of ballot boxes and papers according to prescribed procedures under the gaze of scrutineers.

Cost issues

2.18 Once an internet voting system is put in place, the unit cost of each vote cast is likely to be substantially lower than the unit cost of ordinary or postal votes (which includes postage, printing and preliminary scrutiny costs). However, more evidence is required to substantiate any argument regarding costs. With email voting the voter must print the ballot paper at his or her own expense, while with kiosk, mobile or remote

[11] In the Australian context, this could give rise to major potential problems if implemented for remote internet voting, flowing from its interaction with compulsory voting. At House of Representatives elections turnout is typically of the order of 95%. Research conducted by Jackman (1999) suggests that in the absence of compulsory voting, turnout would be in the range from 55% to 70%. This suggests that more than 25% of enrolled voters are only weakly engaged with the voting process. In such an environment, the possibility that large numbers of credentials distributed for the purposes of internet voting could be handed over to other people to be used for voting to ensure that the elector would not be penalised for failure to vote does not seem especially implausible.

[12] It is sometimes argued that efforts so to obscure evidence of voting in a particular way are rendered otiose by (i) the use of unsupervised postal voting; and (ii) the possibility that cameras (perhaps built into smartphones) may be used to photograph computer screens on which votes are being cast, or even marked ballot papers.

internet voting, there is often no printed ballot at all. This however is but one element of the potential costs of internet voting, a topic addressed further in Part 7 below.

3. Historical background

3.1 This Part outlines how Australia's electoral processes have evolved, noting in particular that over time the ways in which a vote can be cast have expanded to cater for the needs of electors for whom voting at a polling place was not a feasible or convenient option. It explores previous Australian experience with electronic voting and the analysis thereof. Finally, it briefly flags experience in a number of other countries which have adopted or trialled internet voting processes.

The evolution of Australia's voting processes

3.2 Australia's electoral authorities, from their earliest days, have been faced with major challenges arising from the country's geography and population distribution, and have responded to them through the use of a range of different voting modalities.

- At the time of federation, almost 50% of the Australian population lived in communities of less than 3,000 people.
- For a prolonged period, road networks outside major centres were rudimentary compared with today, relatively few people owned cars, aviation was non-existent or in its infancy, and railways and coastal shipping were the primary means of long-distance travel.
- Telecommunications were also very limited, with telegraph being used (at some expense) for urgent messages.
- The Post Office was the face of the federal government in most communities.

3.3 These challenges relating to communications and travel inevitably meant that the basic model of voting at a polling place on election day would have to be supplemented to cater for persons unable (for legitimate reasons) to attend, and postal voting was the mechanism chosen for that purpose.[13] As originally prescribed in the *Commonwealth Electoral Act 1902*, however, postal voting was very clearly defined as an exceptional arrangement applicable to limited classes of voters, and the authorised witness to the recording of postal votes played a role much more burdened with responsibilities than is the case today.[14]

[13] Proxy voting, a mechanism used in some countries to enfranchise (in some sense) those who cannot attend a polling place is precluded at federal elections in Australia by the prohibition on plural voting in sections 8 and 30 of the Constitution.

[14] The authorised witness had to be drawn from prescribed classes of people apparently deemed to be respectable, and was charged, under pain of possible imprisonment, with seeing that the prescribed processes for postal voting were "complied with by every elector voting by post before him, and by every person present when the elector votes". In that respect, the authorised witness

3.4 Since then, there has been a general pattern of providing more diverse opportunities for people to vote at the federal level.

- The deployment of large numbers of Australian military personnel overseas during the First World War made it necessary to develop ways for them to vote, and similar mechanisms were adopted during the Second World War and the Korean War.
- By 1918, provision had also been made for absent voting at polling places outside an elector's enrolled division.
- Postal voting has been extended outside Australia, being now provided through Australian diplomatic missions (with postal votes being able to be issued and returned through them).
- Pre-poll voting has been made available at designated centres from shortly after the close of nominations, and since 2010, no declaration envelope has been required for persons voting within their enrolled division.
- Mobile polling facilities have since 1984 been provided in hospitals and nursing homes, and in remote areas.
- Also since 1984, voting facilities have been provided at Australian stations in Antarctica.

3.5 These changes have been inspired by societal needs which reflected broader changes in the community. In particular, people are more mobile, with an inclination both to travel (in Australia and overseas), and to change their places of living.[15] In addition, the introduction of compulsory voting, and a greater appreciation of the rights of groups with special needs, have motivated EMBs in Australia to attempt to ensure that people are not effectively disenfranchised by mechanical aspects of the voting process.

Previous Australasian experience with electronic voting

3.6 A number of Australasia's EMBs have implemented or trialled systems involving remote access technology or electronic voting. A brief chronology is set out below.[16]

1996 - New Zealand

3.7 In 1996 New Zealand introduced the return of ballot papers by facsimile for voters who were overseas. This represented the first use of technology-assisted voting in the Asia/Pacific region. Since 2002 overseas voters have been able to use the internet to download the ballot paper, declaration and supporting documentation in the three weeks prior to polling day. Completed votes can be returned by fax or mail or to an overseas

played an official role akin to that of a polling official at a polling place, and contributed at least to some extent to the fostering of trust in the process.

[15] This issue is further discussed at paragraphs 3.47 and 4.3 to 4.7 below.

[16] Further detail regarding some of the initiatives discussed below is set out in Holmes (2012).

post. This initiative was well patronised in its time, but changes in the availability of fax machines have led to a decline in use of this method for the return of voting papers.

2001 - The Australian Capital Territory (ACT)

3.8 Electronic voting was first implemented at a public election in Australia by the ACT Electoral Commission, which provided a kiosk system, not connected to the internet, at the 2001 Legislative Assembly elections. The model used involves the voter being marked off the roll before moving to a voting machine to vote. The voter is given a barcode or "token" to open a voting session on the machine for his or her electorate. The vote is stored within the polling place on a server until the close of the polls. The votes are then imported into an electronic counting system. The system also makes it possible for the voter to use headphones, to assist people with a print handicap to navigate the screen and cast their votes independently. The ACT has used the same system with minor improvements for four elections. Approximately 58,000 voters - around 25% of those who voted - used this mechanism at the 2012 elections.

2006 - Tasmania

3.9 In 2006 the Tasmanian Electoral Commission (TEC) implemented a kiosk based system that had been developed in-house. This system facilitated the marking of preferences on the ballot paper, was targeted at voters who are blind or have low vision (BLV) (providing audio guidance if needed and a tailored tactile keypad), but was also available for use by all Tasmanian voters. At the end of each voting session, the recorded ballot was printed and placed in the ballot box.

2006 - Victoria

3.10 In 2006 the Victorian Electoral Commission (VEC) implemented a system based on kiosk style voting machines, which was designed for, and only permitted to be used by, the BLV community. The system featured audio guidance and a tactile numerical keypad. The voter's name was marked on the roll, and then a smart card was provided, which had to be inserted into the voting machine in order to display the correct ballots for that voter. Votes were stored within each voting machine until the close of polling, when the preferences were downloaded and transported to a central location for printing and inclusion in the count.

3.11 In 2010 the VEC built upon on that implementation to include telephone voting within the polling place, and located some kiosks in London to help with the return of ballots promptly. The 2010 implementation catered not only for the BLV community, but also for the Culturally and Linguistically Diverse, and for ordinary overseas voters who could attend the London pre-poll voting centre. The system provided audio and screen guidance in multiple languages, along with a telephone style keypad (the use of which

flowed from the successful use of such an interface device by the AEC in 2007). At the end of the poll, all votes cast were printed and included in the count.

2007 - The Commonwealth

3.12 In Chapter 11 of its report on the 2004 federal election[17], the Federal Parliament's Joint Standing Committee on Electoral Matters (JSCEM) recommended that remote electronic voting be considered for certain classes of voters including BLV electors and Defence personnel serving overseas. In 2006, the federal government responded to the JSCEM report and stated that a trial of electronically assisted voting for BLV voters and a remote electronic voting trial for Australian Defence Force (ADF) personnel would be undertaken for the 2007 federal election. The ADF trial was to be subject to a satisfactory resolution of systems and associated security issues.

BLV voters

3.13 The BLV trial was restricted in scope to 30 pre-poll voting sites, and to electors who were sight impaired such that they were unable to vote without assistance. The kiosks were available in the pre-poll voting period, and on polling day. The government also required that the output from the kiosks be a printed record for later inclusion in the count.

3.14 The solution adopted was designed by a Canberra software provider and was based on a desktop computer format, with a 21-inch flat screen monitor, a telephone style keypad and earphones. The computer box was encased in a tamper-evident perspex case. While voters with some sight could be guided through the voting process using the information on screen, those without sight needed comprehensive instructional voice scripts to guide them. The instructional scripts were recorded during development of the system, but candidate names and party affiliation information could only be recorded after the close of nominations.

3.15. The kiosk system facilitated the vote only, and did not store any vote data on the computer. To meet the requirement of a printed output for each ballot, and to avoid anyone seeing the content of the printed output in the polling place, the voter's preferences were printed in a two dimensional barcode. This printed vote record was then placed in a pre-poll declaration envelope and placed in the pre-poll ballot box. After preliminary scrutiny and the close of the poll, the envelopes were opened and the vote records extracted and decoded for inclusion in the count.

3.16 A total of 850 votes were cast over 29 locations during the two week voting period. The kiosk was the first of its kind to use a telephone style keypad interface, which drew parallels with the rules of telephone banking. This bridged the gap between voters who

[17] Joint Standing Committee on Electoral Matters (2005).

were unfamiliar with using a computer but were familiar with telephones, ATMs or telephone banking. The trial demonstrated that electronic voting for the BLV community could provide an intuitive, secure, secret and independent method of voting It also highlighted that an "audio assisted voting system" could potentially provide benefits for any voter who requires assistance with the printed ballot format.

ADF Remote Electronic Voting

3.17 The ADF voting trial was conducted on the Defence Restricted Network (DRN) and was not available on the World Wide Web. A secure software environment for voting was therefore created. As a consequence, the trial was restricted to those overseas ADF personnel who had access to the DRN and who would be serving in Afghanistan, Iraq, Timor-Leste or Solomon Islands at the time of the election. The trial specifically excluded Her Majesty's Australian Ships due to bandwidth and connectivity constraints.

3.18 The AEC and Defence were engaged throughout the application design process. This ensured that the design met all security and policy requirements, and complied with Australian federal electoral law and with DRN standards, protocols and constraints. The AEC and Defence undertook a comprehensive system acceptance process prior to deployment into production. Both agencies confirmed in October 2007 that the information system and support procedures were ready for the 2007 federal election.

3.19 One element of the design was the provision to the voter of a receipt number which could be entered into a web screen to enable confirmation to be given that the vote had been received and included in the count.

3.20 In all, 2,012 voters were registered, representing 80% of those eligible to participate in the trial. Of those, 1,511 voters, or 75%, used the remote electronic voting system. Electronically submitted votes were printed following polling day, and dispatched to the relevant divisions for counting.

Subsequent developments

3.21 Both systems were audited by a National Association of Testing Authorities accredited firm post-development, and were certified as having met all requirements. However, as discussed at paragraph 3.33 below, following the successful implementation of these trials, the Joint Standing Committee on Electoral Matters chose to not recommend their continuation, primarily due to cost.

2010 - Tasmania

3.22 In 2010 the TEC introduced a new process called Express Voting for voters who are overseas or in remote areas. Under this scheme, an approved voter receives his or her ballot paper and a special declaration form by fax or email. The voter then completes

both the ballot paper and declaration form, and returns them by fax, email or post. In 2010 754 express votes were issued, with 576 returned in time to be counted.

2011 - New South Wales

3.23 In 2011 the NSW Electoral Commission (NSWEC) successfully implemented a remote telephone and internet voting system known as iVote. This was the first of its kind used in Australia, and allowed voters to register on the internet or by phone to utilise the system. Initially this system targeted BLV voters, voters who were disabled within the meaning of applicable anti-discrimination legislation, and voters who were more than 20 kms from a polling place on polling day. Eligibility was later expanded to include any voter who was not within NSW on polling day. The telephone voting channel was the first to be implemented based on the first Australian Electoral Industry Standard "Automated Telephone Voting".[18] More than 51,000 voters registered for the iVote service and nearly 47,000 of them voted. Of those who voted, 1.43% qualified to use the service by virtue of being blind or vision impaired; 2.77% because of other disabilities; 3.51% because they lived in remote rural areas; and 92.3% because they were outside NSW (Allen Consulting Group (2011, p. 20)). All votes taken were stored in central servers in two data centres. At the close of the poll the votes were printed and included in the count at the electoral district level. The iVote system has been successfully used at a number of by-elections since the 2011 State election, most recently that held for the District of Northern Tablelands on 25 May 2013.

Significant previous analysis of the issue of internet voting

3.24 Internet or networked voting mechanisms have been addressed in Australia in various reports, over a long period. Again, a brief chronology is set out below.

1979 - Australian Electoral Office review

3.25 The possible use of electronic voting in Australia was under discussion well before the personal computer became an entrenched feature of daily life. The Australian

[18] Electoral Council of Australia (2011). With the implementation of several kiosk systems aimed at the BLV voter, it had been noted that the interface for using these systems varied widely between each implementation. After consultation with the blindness and disability sector it was agreed that a telephone style keypad was the easiest for voters to navigate, and that a telephone voting standard, similar to that adopted by the banking sector for their telephone banking systems, should be developed to provide the voter with a similar intuitive interface for all parliamentary elections. ECANZ members therefore collaborated to develop the first Australian electoral standard. The Automated Telephone Voting Standard was implemented in the iVote project in 2011 and reviewed to include the lessons learned from that implementation. It was re-endorsed by the ECA in late 2011, and was also reflected in the Vote Assist electronic voting system developed by the WAEC and utilised at their 2013 State general election. It will also be reflected in the systems being developed by the VEC for the 2014 State election.

Electoral Office (1979), in an internal review of Commonwealth electoral legislation as it then stood, foreshadowed the possibility of mechanisms remarkably similar to some of those discussed above:

> "A master ballot paper could be incorporated into each polling booth. (It could be much larger than those used at present, thereby assisting electors with failing eyesight.) The squares opposite each candidate (or party if such an alternative were accepted), much like the buttons in modern automatic lifts, could be made pressure-sensitive. Rather than actually writing his numbered preference in each square, the elector could then simply touch each square in the order of his preference (which would then light up indicating the number of that preference, resembling a filled-in ballot paper).".

1983 - Consideration by the Joint Standing Committee on Electoral Reform of proposals to vote "through the TAB" or through ATM networks

3.26 Early public debate tended to focus on the prospect of using the TAB computer network as a voting platform. A 1983 submission to the Federal Parliament's Joint Select Committee on Electoral Reform from Messrs R.R. Miller and R.B. Thomas argued for such a model, asserting that its use could reduce the per voter cost of an election from $1.00 to $0.20c, and that election results would be available within one hour of the close of the polls. In conclusion, they noted that:

> "The above concepts have been tailored to suit existing systems available in Australia today and no new development of technology or machinery is required. In fact, the available systems used by the T.A.Bs throughout Australia, with their corresponding networks, mean a fully computerised election is only months away from reality. In the future, the introduction of the push button telephone system will enable the idea of voting by telephone and registering the vote directly to take place without any human interface at all.".

3.27 The Committee, in its First Report, was not inclined to adopt the proposal put to it, but nevertheless left the door open for further consideration of the issue:

> "… while the retention of the preferential voting system would involve a more involved ballot paper …computer voting would be possible in Australia. However, the application of computer technology in Australia is not recommended at this stage. The Committee believes that the level of computer education among electors would need to be high to overcome the complications of a computer ballot paper. Also, extensive as the TAB network may be, there are vast area of Australia without ready access to the facility. The accepted pattern of Australian elections is that they be held on Saturdays (as provided in the Commonwealth Electoral Act) when the TAB is in peak us, and the system does on occasions break down. The present system has in its favour a close degree of supervision, which might not be possible with computerisation. However, with developing

computer-consumer education and the spread of technology, the Committee recommends that the proposal should be kept in mind.".[19]

2002 - *eVolution not revolution*

3.28 In 2002, the AEC and the VEC collaborated in the preparation of a report entitled *eVolution not revolution*.[20] This report has largely stood the test of time in its description of electronic voting methods and its associated observations. It highlighted that electronic voting would be of most benefit to those who have difficulty in accessing a polling place, such as voters in the Antarctic, and those otherwise overseas or in remote locations. It also flagged potential benefits for voters with a print handicap who would otherwise need to be assisted to complete their ballots, thereby compromising the secrecy and independence of their votes. The report encouraged public debate on the crucial issues of the secrecy of the vote, equal access to voting, security issues and public trust and confidence in the voting systems.

3.29 The report concluded that it was time for electoral laws to be amended to enable trialling of electronic voting specifically for those key groups of people who were often disenfranchised by distance or disability, and encouraged Parliaments to address the issue.

2008 - Evaluation of the 2007 AEC trials, and consideration by the Joint Standing Committee on Electoral Matters

3.30 An independent auditor was contracted by the AEC to evaluate the 2007 trials.[21] The overall assessment was that the AEC had complied with legislation and relevant standards as well as effectively managing electoral risks.

3.31 In relation to kiosk voting by BLV voters the report included the following findings.

- The voters were likely to be younger than the average BLV person, with the older electronic voting machine (EVM) voters more likely to require assistance to vote using the EVMs.
- Those who either did not use computers, or did so infrequently, found the kiosk harder to use, adding weight to the need for greater means to become more familiar with the technology.
- Amongst the kiosk users, the support for the kiosks was overwhelmingly very positive, with 97% of users stating that they were (very) satisfied overall.

[19] Joint Select Committee on Electoral Reform (1983, pp. 69-70).
[20] Victorian Electoral Commission and Australian Electoral Commission (2002).
[21] Sue Sheridan and Associates (2008a); Sue Sheridan and Associates (2008b).

- Those who used the machines were able to vote in a way to reflect their intentions, as evinced by the relatively high number of below the line (BTL) voters for the Senate.

3.32 In relation to ADF voting the report included the following findings.

- The trial significantly increased the number of ADF personnel voting.
- The registration process was resource intensive for the AEC.
- The timeliness of receiving mail was an issue for some of the Defence personnel overseas.
- Amongst the ADF voters, there was a high level of satisfaction with the level of service that the voting system provided.
- The main issues raised concerned the lack of privacy in casting a vote (16 survey respondents), and the speed at which voters were able to log on and cast their votes.
- Despite the concerns about speed from respondents, the average time to cast a vote was 8.6 minutes after logging on.
- Those who used the system to vote were able to vote in a way that reflected their intentions, as evinced by the relatively high number of BTL voters for the Senate.

3.33 Following the 2007 election, the JSCEM undertook a separate review of the BLV and ADF electronic voting trials, and recommended that the processes trialled should not be used at future elections. The wording of the Committee's recommendations placed major emphasis on cost factors:

> "Given the additional burden imposed by remote electronic voting with its paper-based backup systems on defence force personnel in operational areas and the relatively high average cost of voting at $1,159 per vote compared to an average cost per elector of $8.36 at the 2007 federal election, the committee recommends that remote electronic voting for defence force personnel should not be continued at future federal elections.
>
> ...
>
> Given the high average cost per vote of $2,597 for electronically assisted voting compared to an average cost per elector of $8.36 at the 2007 federal election and a concern that participation will not increase to sustainable levels, the committee recommends that electronically assisted voting for electors who are blind or have low vision should not be continued at future federal elections.".[22]

[22] Joint Standing Committee on Electoral Matters (2009a, pp. xiv, xvi).

2009 onwards - Reports associated with the introduction of internet voting in NSW

3.34 In the lead up to and following the introduction of iVote in NSW, the NSWEC commissioned and published a number of substantial reports.[23]

3.35 In 2009 Associate Professor Rodney Smith, of the University of Sydney's Department of Government and International Relations, prepared a report entitled *International Experiences of Electronic Voting and Their Implications for New South Wales*.[24] The report detailed case studies from Brazil, India, Switzerland, Estonia and the Netherlands, and provided comparisons with several Westminster systems (New Zealand, Canada and the United Kingdom), followed by separate commentary on the experience of the USA. It noted that while Brazil, India, Switzerland and Estonia had all retained electronic voting, other countries had had mixed experiences leading to either the abandonment of implementation plans, the abandonment of existing implementations, or the reduction of the use of electronic voting, particularly internet voting. Professor Smith's paper reached no firm conclusions, but included an observation that more extensive research on public attitudes to electronic voting would be an important early step for the NSWEC.

3.36 In the aftermath of the State General Election in 2011, the NSWEC sponsored an evaluation of the use of the iVote process,[25] the primary conclusions of which were as follows:

> "The iVote system has been proven to work and be appropriate in a real election environment. It provided a convenient, reliable and secure method of voting in the 2011 NSW SGE [State General Election] for people who are blind or vision impaired, have a disability, live in remote or rural areas or who were outside NSW on Election Day.
>
> The take-up of the iVote system was highly successful. A total of 51,103 people registered to use iVote and a total of 46,864 (or 92 per cent) actually used it to cast their votes in the 2011 NSW SGE. The actual number of users was in the order of four times the original estimates.
>
> - The blind or vision impaired group and the group of electors with other disabilities experienced lower than estimated take-up rates, with only 2,000 people from these groups casting their vote using iVote.
> - The registrations and votes received from people in remote or rural areas exceeded original take-up estimates by almost three fold.

[23] New South Wales Electoral Commission (2013a). The issue of internet voting has also received sustained attention from the NSW Parliament's Joint Standing Committee on Electoral Matters.
[24] Smith (2009).
[25] Allen Consulting Group (2011).

- The vast majority of iVote registrants and users were people outside the State on Election Day.

The above suggests that the success of iVote (in terms of its uptake) was mainly driven by people who used it because they were outside of NSW on Election Day.".

3.37 Most recently, the NSWEC has published a further paper by Professor Smith on *Internet Voting and Voter Interference*.[26]

2009 - Electoral Reform Green Paper

3.38 The Australian Government's 2009 *Electoral Reform Green Paper* addressed internet voting at paragraphs 11.38 to 11.41, as follows:[27]

"11.38 Internet voting is one electronic voting option. The most common internet voting proposal entails eligible voters being sent identity and password details which enable them to remotely log onto a designated internet voting site to cast their vote.

11.39 A number of arguments have been advanced in favour of internet voting. It has been said that voting using the internet at home would allow for 'greater deliberation than occurs currently at some public polling stations'. It has also been argued that internet voting would remove the existing logistical difficulties inherent in postal voting, and would also provide a forum through which overseas voters could cast their votes in a more efficient and convenient manner. Both these outcomes could achieve administrative savings. It has also been contended that internet voting may improve the participation of young people in the electoral process. From a 'proof of identity' perspective, internet voting without 'proof of identity' requirements could be regarded as comparable to in-person voting without 'proof of identity' requirements.

11.40 However, internet voting raises a number of additional security concerns compared to other forms of electronic voting. For example, it has been argued that:

- an internet voting system may be vulnerable to outside attack;
- there may be an increased possibility for voter fraud given that voting no longer takes place in a controlled impartial environment;
- in the absence of a national identity system, proving voter identity in the case of internet voting is a major security issue; and
- there would be a possibility for widespread 'flooding' of the internet voting site, leading to system failures.

11.41 In addition, it has been argued that it would be almost impossible to ensure the secrecy of the ballot, as there would be 'potential for coercion and intimidation when voting in an

[26] Smith (2013).
[27] Australian Government (2009). Footnotes in the original text have been deleted.

unsupervised setting.' If other options for voting (such as postal voting) were not retained, there would also be potential for discrimination against those who do not have access to the internet or are not proficient in its use.".

2012 - AEC examination of attitudes to internet voting

3.39 In 2012 an internal AEC paper produced by the Strategic Research and Analysis Section[28] examined research conducted on the use of the internet for voting overseas, the limited experiences within Australia of voting via the internet, and the trends towards the use by Australians of online services in the context of other government services and online banking. The paper, entitled *Internet Voting: One small click for the elector, One giant leap for the electoral process,* approaches the subject by focusing on three areas considered vital to the electronic voting experience - convenience, trust and secrecy - and contemplating how they might be achieved in the context of internet voting.

3.40 The paper highlighted the following points.

- Trials of internet voting overseas have given rise to both positive and negative experiences.
- An element of the successes was the involvement of electoral stakeholders: typically, parliamentary, government, corporate and specific community interest groups.
- The general public's views on internet voting in Australia have largely been neglected. Arguments against internet voting have tended to assume that the public holds a preference for voting via the internet because it would be convenient, and that the public has simplistic views concerning online transactional services.

3.41 The paper accordingly sought to determine how the public may perceive an internet based voting system. It examined the recent substantial growth in government services being delivered online, which has not been uniformly distributed across the population, since people's preference to use online services decreases when the demographic is older. It noted that this "digital divide" is also influenced, but to a lesser extent, by education levels and income. Internet banking reflects a similar age-based result with young people the most common users of online banking. It noted that a study conducted in 2010 directly addressed the public's attitude to online voting: just over half the surveyed group thought that online voting would make the process easier; at the same time over a quarter of the group thought it would be more difficult than paper-based voting.

[28] Australian Electoral Commission (2012).

3.42 The paper noted that a challenge for voting via the internet is maintaining the current level of trust the public has in the Australia's electoral system. On this, it cites the evaluation of iVote following the 2011 SGE in NSW (Allen Consulting Group (2011)) as finding that only a small percentage of iVote users expressed distrust with the registration process, while 3% of those who chose not to use iVote did not trust technology assisted voting. It noted that the vote checking service, which allowed voters to ascertain that their vote had been lodged, of the ADF voting system trialled at the 2007 federal election had been used by only a small percentage of electors, despite the fact that three-quarters considered it a good feature, suggesting that the presence of this feature increased people's trust.

3.43 The paper reached the following conclusions.

- It is still undetermined how Australians' increased access to the internet will affect their trust in voting online. There have been findings that indicate that the public are more likely to access "informational" services than to perform more complex transactions that involve exchanging funds and personal details.
- Australian's attitude towards the secrecy of the vote is also difficult to gauge. BLV electors have indicated on numerous occasions that it was very important that they be given the opportunity to cast a secret vote, but this can be compared with the openness of citizens who engage on social networking sites, and the increase in postal voting.

3.44 In summary, the paper noted how little research has been done on public opinion regarding internet voting, and suggested that this be pursued further.

2012 - Electoral Council of Australia (ECA) Electronic Voting Workshop

3.45 In July 2012 the VEC and the AEC collaborated through the ECA to conduct the first national workshop on electronic voting in Australia, held over three days in Melbourne. In the light of growing commentary from academic computer scientists before parliamentary committees concerning the security of electronic voting solutions, a need had been perceived for ECA members to know more about the security risks surrounding electronic voting and verified voting methods. The workshop was designed to consult with a range of academics and election administrators.

2012 - VEC development of a system based on the "Prêt à Voter" model

3.46 The VEC is currently pursuing the development of a kiosk system, a verifiable voting protocol based on the "Prêt à Voter" model, with modifications to deal with

distinctive features of Victorian elections.[29] The development is proceeding in close cooperation with computer scientists who have been engaged for some time in researching technical implementation of cryptographic methods which underpin some of the more sophisticated approaches to internet voting.

2013 - Voting by "Fly In, Fly Out" (FIFO) workers

3.47 In recent times Australia has seen a growth in the phenomenon of FIFO workers, who, once located in their work place, cannot leave until their shift ends (often locking them in place for two or three weeks). In February 2013 the House of Representatives Standing Committee on Regional Australia recommended that the Commonwealth Government should charge the AEC with developing an electronic voting system for FIFO workers.[30] Further details are set out in **Appendix A**.

2013 – WAEC post-election survey of electors

3.48 In April 2013, the WAEC published a report on its survey of voters from the 2013 State election.[31] Participants were surveyed on several topics including on their attitudes towards electronic voting. The survey found that nearly three-quarters of respondents used the internet for the following types of transactions: paying bills; online banking; online shopping; and government information or services. Participants were also surveyed on their perception of how secure internet voting was; the number who felt secure or very secure in voting via the internet increased from approximately one-third in 2005 to nearly half in 2013. When asked if they would use internet voting, if the process was offered and secure, two-thirds felt it was likely or very likely that they would use the service. The public's level of trust in the WAEC in conducting an election which allowed voting via the internet increased from half feeling secure in them conducting this form of election in 2005 to nearly two-thirds in 2013.

Other consideration

3.49 Holmes (2012) outlines a number of other reports from Australian EMBs or parliamentary bodies which refer to the issues of electronic or internet voting. **Appendix A** provides more detailed information.

International experience

3.50 The most recent comprehensive comparative survey of international experience with remote internet voting is that undertaken by Barrat i Esteve, Goldsmith and Turner (2012, pp. 12-68). They highlight the following ten cases of internet voting "from

[29] For an overview of the VEC's plans, see Victorian Electoral Commission (2013, pp. 11-19, 21-22). For more technical discussions of the Prêt à Voter model as it might be used in Victoria, see Burton et al (2012a) and Burton et al (2012b).
[30] House of Representatives Standing Committee on Regional Australia (2013).
[31] Report on the West Australian Electoral Commission Survey – State General Election 2013.

uncontrolled environments" (as they define the term), in addition to the Norwegian poll which is the main subject of their study.

Country	Classification	Type of Elections in which Internet Voting is Used
Australia	Currently used in some parts of the country	New South Wales (NSW) State elections
Canada	Currently used in some parts of the country	Local government elections
Estonia	Currently used nationwide	Local government elections, Parliamentary elections, Presidential elections, European elections
France	Currently used in parts of the country	Elections to the Assembly of French Citizens Living Abroad
India[32]	Pilots ongoing	Urban Local Body Elections
Netherlands	Discontinued	Water Board Councils and National Parliament (overseas voters only)
Norway	Pilots ongoing	Local government elections
Spain	Discontinued	City of Barcelona referendum
Switzerland	Currently used in parts of the country	Municipal, cantonal and federal Referenda
United Kingdom	Piloted and not continued	Local government elections
United States	Pilots ongoing	General elections (overseas voters, predominantly military)

They note, furthermore, that the use of internet voting for binding votes or referendums is a comparatively recent phenomenon, being first attempted in a small trial in the USA in 2000, involving only 84 participating voters.

4. The electoral environment in Australasia

4.1 This Part deals with aspects of the environment in which elections are conducted which could be expected to have an impact on the feasibility or desirability of adopting different models of internet voting. It covers the following matters:

- issues raised in the *AEC Environmental Scan 2009-2012*;
- population mobility, including overseas;
- the changing nature of the printing industry and postal services;

[32] Barrat i Esteve, Goldsmith and Turner (2012) state that "…it has not been possible to find out any information on the internet voting system trialled in India beyond vague media reports".

- the nature of campaigning;
- the rise of the internet;
- increased commercially-available internet voting for private and fee-for-service (FFS) elections and other ballots;
- public attitudes to, and trust in, internet voting, the election process and EMBs;
- attitudes to risk; and
- diversity of electoral processes in a federal system.

AEC environmental scan

4.2 In 2009, the AEC prepared a document entitled *AEC Environmental Scan 2009-2012*,[33] which sought to identify a range of factors which could influence the way in which the organisation operates. Some key points identified therein as at 2009 included the following.

- In the decade preceding the *Scan*, the number of Australian households with access to the internet at home had more than quadrupled, increasing from 16% of households in 1998 to 67% of households in 2007-08.
- The internet was by 2009 the most common way that Australians had last made contact with government. In 2008, more than three in ten people had used the internet for the majority (all or most) of their contact with government, double the rate reported in 2004-05. Since 2007, the internet had been the most preferred way to contact government. While younger people were the most likely to use the internet to contact government (with persons aged 25 to 34 years having the highest rates of use), growth had been strongest in older age groups. Since 2004-05, rates had doubled for persons aged 55 to 64 years and had tripled for persons aged 65 years or over.
- The inquiry into the 2007 federal election by the JSCEM noted a '...growing reluctance on the part of electors to interact with the AEC using the paper-based and physical mail systems mandated by the Commonwealth Electoral Act...', and methods aimed at modernising the means of communication between electors and the AEC featured prominently in the final report.
- Like most developed countries, Australia's population was ageing due to sustained low fertility and increasing life expectancy. Over the coming decades, population ageing in Australia was expected to have significant implications in areas such as health, labour force participation, housing and the demand for skilled labour.
- Based on information from the then most recent (2006-11) set of population projections produced by the Australian Bureau of Statistics (ABS), the population aged 18 years or over (i.e. of voting ages) was projected to increase from 16.1 million persons at 30 June 2007 to between 17.4 and 17.6 million persons in 2012.

[33] Australian Electoral Commission (2009a).

- Over the longer term, the age composition of the Australian population was projected to change considerably as a result of population ageing. For example, over the next two decades, it was projected that persons aged 65 years or over will increase to around a quarter of the voting age population (from 17.2% of the population aged 18 years and over at 30 June 2007, to between 24.1 and 24.8% in 2027).
- In 2006-07 there were 36,800 Australia-born residents (including Australia-born children whose parents were former settlers) who permanently departed Australia. This was double the number of Australia-born permanent departures in 1998-99 (17,300).
- In both 1998-99 and 2006-07 the United Kingdom, New Zealand and the United States of America were the top three destinations for Australia-born residents who departed Australia permanently. These three destinations comprised 58% of all Australia-born permanent departures in 1998-99 compared with 52% in 2006-07.

Population mobility, including overseas

4.3 Australia now has a substantial expatriate population. Measuring its size accurately is difficult, but the Senate Legal and Constitutional References Committee, in its report entitled *They still call Australia home: Inquiry into Australian expatriates*, explored the issue in some detail, and cited (second hand) "evidence from the Department of Foreign Affairs and Trade (DFAT) which estimated the number of Australian citizens living on a long-term or permanent basis in other countries as being 858,886 as at 31 December 2001", that being equivalent to 4.3% of the 2001 resident population.[34] Since the number of permanent departures from Australia has shown a long term trend of increasing in absolute numbers year by year, it is highly likely that there has been an increase in the number of expatriates since 2001.[35]

4.4 Within Australia, the population is also highly mobile. Data from the 2011 census show that some 3.2 million people had changed their place of usual residence in the year preceding the census, while 7.9 million had made such a change in the five years preceding the census.

4.5 Paradoxically, however, the ageing of the population is also giving rise to a cohort of potential voters who, while they may from time to time change residence, face greater

[34] Senate Legal and Constitutional References Committee (2005).
[35] In 2006, the Southern Cross Group, which among other things advocates for the voting rights of Australians overseas, estimated that approximately 700,000 adult Australian citizens lived overseas (Hill and Alport (2007)). It needs to be emphasised, however, that figures on numbers of expatriate citizens do not necessarily correspond to the numbers of Australians overseas who are entitled to vote. The Federal Parliament has made a conscious decision to provide only limited voting rights to long-term expatriates (Joint Standing Committee on Electoral Matters (2009b)), As at 30 April 2013, there were only 15,833 eligible overseas electors registered for federal elections.

challenges in moving about or coping with life on a day-to-day basis. It was noted in *Australia's Initial Report under the Convention on the Rights of Persons with Disabilities* that:

> "The 2003 Australian Bureau of Statistics (ABS) Survey of Disability, Ageing and Carers (SDAC) showed that one in five people in Australia (3,958,300 or 20.0%) had a reported disability",

and that:

> "61% of the 3.8 million persons with disabilities living in households reported needing assistance to manage their health conditions or cope with the activities of everyday life.".

4.6 With the ageing of the population and the desire of many aged people to continue to live at home independently for as long as possible, there is an increasing number of people who tend to stay home and have services come to them. This does not necessarily mean that they are not connected to the internet, although many of the older ones would not be.

4.7 "Deinstitutionalisation" policies have seen increasing numbers of people with a disability being similarly situated.

Changing nature of the printing industry and postal services

4.8 Elections as currently conducted in Australasia are heavily dependent on a number of major service providers, including in particular the postal service and the printing industry.

4.9 In Australia the manufacturing sector has declined somewhat in recent years: major explanatory factors include the global financial crisis, a stronger Australian dollar, and increased commodities prices which increased costs. These trends are significant, but are not guaranteed to persist. The domestic printing industry has faced financial challenges, resulting in several companies undergoing restructuring, management buyouts or mergers. The capacity to print still exists, with under-utilisation of capacity often being a problem. In the future, it is likely that financial difficulties will continue for the industry as demand for printed products eases. However, in the timeframe covered by this paper and even a little beyond, it does not seem that the inability to print products for elections will exist. An industry survey from March 2013 reported that printers were "pragmatic and even cautiously optimistic about the future".[36] Similar issues have existed for the paper industry.

4.10 The future viability of the mail service in Australia might also be questioned, with reports in early 2013 that the United States Postal Service was ceasing Saturday mail

[36] Bendel (2013)

deliveries.[37] This is a particular concern in the US since some jurisdictions only offer voting via the post. In Australia at present, only a limited number of local government elections are conducted on a purely postal voting basis.[38] The barrier presented by Australia Post's outgoing mail capacity may be mitigated through the use of email voting, where the additional volume will be incoming mail not outgoing. Additionally the equitable delivery of mail is a legislated obligation of Australia Post: the *Australian Postal Corporation Act 1989* provides that Australia Post is to "ensure that the performance standards (including delivery times) for the letter service reasonably meet the social, industrial and commercial needs of the Australian community".[39] In some communities there is not a delivery service to home addresses but rather regular delivery to post office boxes or retail outlets. The Auditor-General reports each financial year on Australia Post's compliance with the prescribed performance standards; such reports are presented to the Parliament.[40] A significant change to the delivery schedule on purely commercial considerations appears to be unlikely without oversight from the Parliament.

The nature of campaigning

4.11 The character of electoral campaigning in Australia has changed greatly in the last half century. Fifty years ago, campaigning largely took place through public meetings, doorknocking, some radio, television and print advertising, and the publication of handbills and flyers, supplemented on polling day by the distribution of how-to-vote cards. Relatively few people voted before polling day, and an election blackout prevented electronic advertising in the days preceding the poll.

4.12 While some of these techniques are still used by resource-poor small parties and independent candidates, the methods used by large parties have changed radically. Much more emphasis is now placed on broadcast advertising, internet advertising, the use of targeted direct mail, and "robo-calls". Parties also place great emphasis on making early contact with potential postal voters, especially through the distribution of postal vote application forms configured to be returned to the parties rather than lodged directly with the EMB.[41] Finally, parties find themselves competing with far more "background noise" than was the case in bygone days, with voters being constantly bombarded with messages from the media, both traditional and social, most of which have little to do with politics.

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[37] Moretti (2013).
[38] In WA, whilst 95 per cent of the State's eligible electors live in local government districts that conduct postal vote only elections, the declining level of surface mail services by Australia Post in some regional areas has become a significant problem for the WAEC. The VEC also reports that Australia Post will be unable to manage mail volume at the scale of the 2012 Local Government Elections in the future
[39] *Australian Postal Corporation Act 1989*, s. 27(4)(b).
[40] *Australian Postal Corporation Act 1989*, s. 28.
[41] In the ACT, however, this practice of the parties has been banned.

4.13 These changed approaches have implications for internet voting at a number of points.

- It would be technologically possible to make internet voting available from shortly after the close of nominations, as is currently done with postal voting. At a federal referendum, internet voting could be opened from the issue of the writ, subject to the constitutional requirement that there be no voting in the two months following the passage by the Parliament of a proposed law for the alteration of the Constitution. If, however, internet voting were to be made generally or widely available, there would be a real prospect that a significant proportion of the electorate would vote without the benefit of hearing what the parties and candidates had to say for themselves in the campaign.[42] A value judgement needs to be made on whether society would regard that as a democratic advance.
- An alternative would be to limit internet voting to a few days before polling day, for example in the period currently covered by the election blackout. That, however, would diminish to some extent the value sometimes asserted for internet voting that it provides voters with a more convenient service. It would also have the potential to increase the load on systems, by increasing the number of people trying to vote in a given time period.
- It could reasonably be anticipated that parties which currently seek to interpose themselves between applicants for postal votes and the EMB might wish to become similarly placed in the process by which voters apply for internet votes; for example, to give themselves the capacity to capture voters' email addresses or phone numbers so that the voters can be directly targeted by email or "robo-call" campaigning.
- Internet voting gives rise to the prospect that voters could access how-to-vote cards online, where a system for lodging and registering them existed. It could be argued that this would put all candidates on a more equal footing, making them less dependent on being able to mobilise an army of supporters to canvass outside polling places.

4.14 One striking aspect of modern campaigning is the proliferation of party and candidate posters at some polling places, occasionally taking the form of large rolls of printed plastic sheeting which can be used to cover almost completely the fence surrounding school grounds. Smith (2013, p. 39) notes the reaction of some voters to the typical atmosphere at polling places, reported in a survey conducted for the New South Wales Electoral Commission after the 2011 State election, as follows:

> "A few, however, responded negatively to the politics of attending a polling place. One respondent, for example, wrote: 'It [the iVote] is more private, you can take your time

[42] This issue, of course, also arises in relation to postal voting.

selecting the person you are voting for and you are not intimidated by other people around you or hassled by supporters of the parties'.".

The rise of the internet

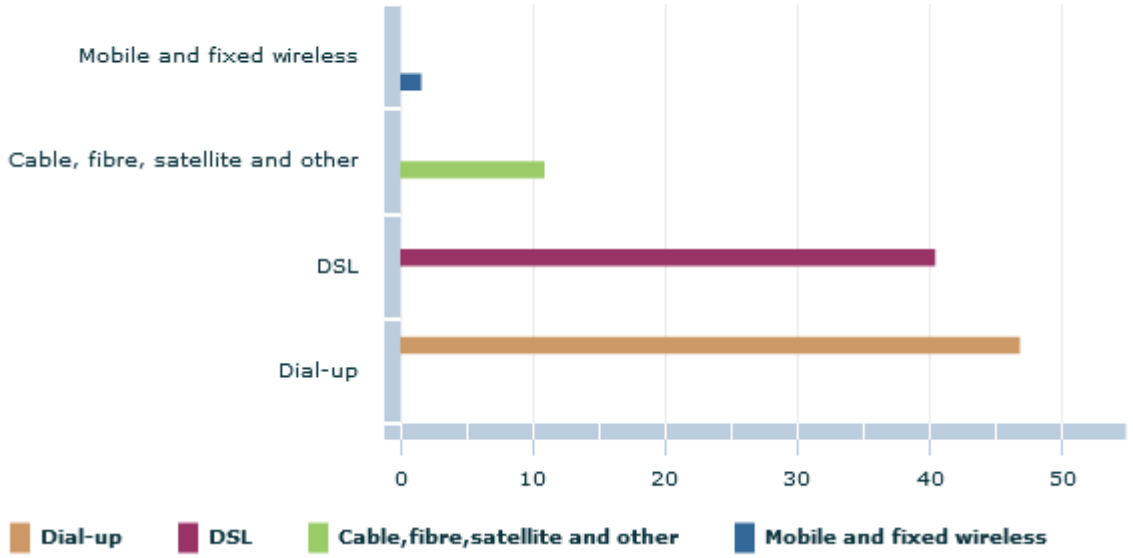
4.15 The internet had its origins in the 1960s and recently the World Wide Web (which, along with email, is the medium through which most people interact with the internet) celebrated its 20th birthday. Throughout the 1990s a desktop computer or bulky laptop had to be physically connected by phone line, via a dial-up connection, to utilise these services. This only provided slow connections, and had the disadvantage of occupying the phone line while the internet was being accessed. During the 1990s the number of people with an internet connection at home in Australia was still quite low (16% in 1998)[43], and internet cafes were a popular way of accessing the internet.

4.16 Within the home, the rate of internet connectivity increased significantly throughout the 2000s. According to the Australian Bureau of Statistics (ABS), in 2001 35% of homes had access to the internet and in 2008-9 this had grown to 72%.[44] The devices which people used to access the internet changed during this growth. Laptops become smaller, lighter and cheaper, and the sales of those devices eventually overtook desktop computers in 2008.[45] It was also during the second half of this decade that WiFi as a mode of connecting within the home and in limited public areas increased in popularity.

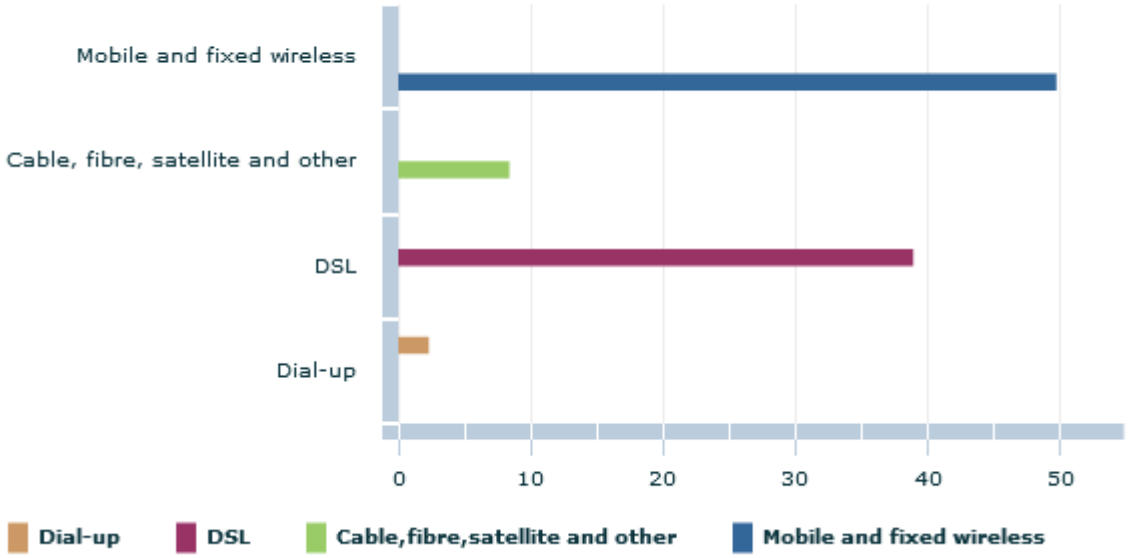
4.17 These changes occurred at the same time as a significant increase in access speeds, where dial-up connections were abandoned in favour of technologies which offered faster speeds. The new ADSL technology, which still used the same copper phone network but which could operate at the same time as a regular phone call, was first offered by Telstra in 2000. Further jumps in speeds occurred through the decade with the introduction of ADSL2 and ADSL2+. According to the ABS, in June 2006 and December 2012 the ways which people connected to the internet were as follows.[46]

[43] Australian Bureau of Statistics (2011).
[44] Australian Bureau of Statistics (2007); Australian Bureau of Statistics (2011).
[45] Sydney Morning Herald (2008).
[46] Australian Bureau of Statistics (2012). Actual figures represented by the 2006 bar chart are: mobile – 1.6%, Cable – 10.9%, DSL – 40.4%, Dial-up – 46.8%. Actual figures represented by the 2012 bar chart are: mobile – 49.7%, cable – 8.4%, DSL – 38.9, Dial-up – 2.3%.

Proportion of subscribers by connection type, Jun-2006



Proportion of subscribers by connection type, Dec-2012



4.18 Almost half of internet connections in December 2012 were mobile and fixed wireless. At the end of 2012, there were 6 million wireless broadband connections in Australia.[47] The connection which was growing fastest in the second half of 2012 was fibre, which grew by 75%. These figures suggest two trends - the ability to access the

[47] Australian Bureau of Statistics (2012).

internet via a form of mobile connectivity is very popular, and the market is demanding faster internet access, as evinced by the increase in fibre connections.[48]

4.19 US research may provide some insights into likely patterns of internet use by the young. The Pew Research Center in the United States recently released a study examining teenagers and technology.[49] Since 2006, the rate of teenagers who are online has remained consistent at 95%, but what has changed is the form of device and connection used.[50] The study revealed that the accessing of the internet via mobile devices is commonplace. The group surveyed was between 12 and 17 years of age. Almost half of those surveyed owned a smart phone, a quarter said that they mostly accessed the internet from their phone, and nearly three-quarters use a phone, tablet or other mobile device to access the internet at least occasionally.[51] The survey did find that those from lower socio-economic groups were still somewhat less likely to use the internet in any capacity, but that those who did have internet were at least as likely to use a mobile device as their main point of access.[52]

4.20 The trend would appear not to be restricted to those below the voting age. A report by Cisco from February 2013 claimed that from 2011 to 2012, global mobile data traffic had grown by 70%, and within Australia it had grown 40% from mid-2011 to mid-2012.[53] To provide some context for the volume of data under discussion, the global mobile traffic alone was nearly twelve times the size of the entire global internet data of 2000.[54]

4.21 Nowadays, internet cafes, although still in existence, are becoming rarities as it becomes cheaper and easier to access the internet from smart phones. This allows people to access the internet from wherever there is a mobile broadband signal. As of September 2012, the British communications regulator, Ofcom, claimed that 56% of Australians owned a smart phone.[55] The Australian Communications and Media Authority (ACMA) stated that as of May 2012, the percentage of smartphone owning adults in Australia was at 49%.[56] Another change is also happening with internet access within homes. According to Ofcom, Australia shares with Spain the highest take up rate of tablet devices in the world, at 24%.[57] Meanwhile, the ACMA reported that 29% of households

[48] Australian Bureau of Statistics (2012).
[49] Madden et al (2013).
[50] Madden et al (2013, p. 3).
[51] Madden et al (2013, p. 2).
[52] Madden et al (2013, p. 2).
[53] Cisco (2013, p. 4).
[54] Cisco (2013, p. 1).
[55] Ofcom (2012, p. 6).
[56] Australian Communications and Media Authority (2013, p. 6).
[57] Ofcom (2012, p. 4).

accessed the internet with a tablet. It is suggested by the ACMA that due to the current pricing scheme for mobile broadband connectivity and the widespread availability of WiFi hotspots in public areas (such as cafes and shopping centres) and within the home, tablets are typically connected to the internet via the fixed-line networks.[58]

4.22 Throughout the 1990s, the standard way of accessing the internet was via a large desktop computer at home, work, school, internet cafe or library. This has been transformed to a situation in which all of the above are still possible, but additionally people can access it from wherever there is a mobile broadband signal, which can even be found in developing countries. The devices used encompass smartphones, tablets, laptop, desktop computers, televisions and gaming consoles. Further complicating the picture is the blurring of categories between smartphones and tablets (phablets), and between tablets and laptops where the devices take the form of a laptop but have the ability to split in half and operate as a tablet.

Increased commercially-available internet voting for private and fee-for-service (FFS) elections and other ballots

4.23 There has been growing use of internet and intranet voting in the commercial environment, in particular in Certified Agreement ballots where a simple Yes/No is required, and in elections for company directors. Certainly intranet voting and simple internal email polling has been available since the late 1990s when intranet and company email became standard in most large businesses and government departments.

4.24 The ACT Electoral Commission recently commissioned and released “Yes/No” internet voting software to address the rising demand for this type of commercial service. The AEC has also recently released a Request for Tender for similar software. Other EMBs have expressed an interest in having access to software to assist in the conduct of commercial elections of this type via the internet. This is an area in which there is also substantial private sector interest.

4.25 In the realm of social media, internet and phone polling techniques are being used in an increasingly profitable manner to “vote” for talent (Australian Idol) or to “vote” people out of competitions (Big Brother). The use of this social type of voting may condition the public into believing that voting is easy, secure and believable, even though these social experiences encourage voters to vote more than once and the voter pays for the privilege.

[58] Australian Communications and Media Authority (2013, p. 16).

Public attitudes to, and trust in, internet voting, the election process and EMBs

4.26 The greatest intangible asset possessed by any EMB is public trust, since that goes to the heart of public acknowledgement of the legitimacy of electoral processes. As noted at paragraphs 3.39 to 3.44 above, public attitudes to internet voting have been explored to some extent, but not extensively canvassed, in Australia.

4.27 Public reaction to the NSWEC's iVote system has been very positive: of the surveyed users, 96% were satisfied with how iVote worked.[59] The current environment in NSW appears to be very receptive to using the internet to vote. This is likely to have been influenced by their past experiences with EMBs, their exposure to the internet in general, and the iVote process.

4.28 Trust has been highlighted as a significant issue for internet voting in a number of studies.[60] This flows in the main from the fact that electronic transactions cannot be directly monitored in the same way as manual handling of ballot papers. Trust in election processes will typically be a cultural phenomenon which has developed over a long period, and may spring from many different sources, including some of the following.

- The general attitude to public institutions in a country may be a trusting one, and the EMB may simply benefit from this generally benevolent atmosphere. This is largely the case in Australia.
- EMBs which have a long history and have earned public respect will potentially enjoy levels of trust even higher than some other comparable public officials, especially if their independence from the government of the day enjoys constitutional or statutory protection, and if they have built a reputation for honesty and transparency.
- Voters tend to trust election results because, in Australia, surprise results are comparatively rare. Voters may have an intuitive sense of community attitudes towards various parties and candidates at any particular time, and these are reinforced by public opinion polls which, in Australia, have had a reasonably good record of anticipating election results in recent years.
- Another factor which may well have contributed to people's trust in Australian EMBs is the extensive participation of ordinary people in the electoral process. The AEC hires nearly 70,000 people for a federal election; this means many Australians have a friend, neighbour or relative who works on election day. Ordinary people also have the ability to participate by assisting candidates in handing out how-to-vote cards at polling places, and by acting as scrutineers.

[59] Allen Consulting Group (2011, p. 33).
[60] See, for example, Barrat i Esteve, Goldsmith and Turner (2012, pp. 23-38).

These activities provide the opportunity for everyday citizens to participate actively in the electoral process, and to become broadly comfortable with it.

- In general, Australia's manual electoral processes are relatively simple and transparent, making them readily susceptible to scrutiny. Even the more complex processes are typically capable of being decomposed into smaller elements on which individual scrutineers can focus.
- Scrutineers also enjoy extensive statutory rights, of which they are well aware, and generally do not hesitate to assert those rights when the need arises.
- Changes to Australian electoral processes have tended to be incremental rather than radical, such that a sense of public familiarity with their broad outline is sustained from election to election. Ritualistic elements of elections, such as attendance voting and the use of the National Tally Room may well contribute to this.[61]

4.29 The diversity of these sources of trust highlights the complexity of the factors which could potentially influence public attitudes to internet voting (which remain, to a significant extent, a matter for speculation). As the use of the internet becomes more and more integrated into the fabric of daily life, it is possible that voters might come to be increasingly comfortable with its use in the electoral context, and might, moreover, be prepared to treat any problems arising in internet voting systems with a degree of pragmatic tolerance.

Attitudes to risk

4.30 The preceding analysis has examined in some detail the different factors which contribute to high levels of community trust in Australia's electoral processes. Assessing the willingness of the community to accept and manage electoral processes involving risk is more difficult, for a number of reasons.

4.31 First, it is in the nature of EMBs to be, rationally, very risk-averse. An election is the biggest peacetime logistical operation which a country faces, and an EMB has one chance every few years to get it right. EMBs tend to have a strong sense of the

[61] The Joint Standing Committee on Electoral Matters (2007) touched on considerations of this type, when unanimously recommending the retention by the AEC of the National Tally Room (NTR):

> "The committee supports the continuation of the NTR given its historical place in Australian politics and elections. Australia is one of the world's longest running democracies, and needs to value its history and traditions. … Furthermore, the committee notes, there is a value - and logic - in having a central tally room in the national capital for the federal election. This value extends far beyond dollar or logistical considerations. There is a view that, by providing a focal point for the display of results on election night, the NTR actually promotes a visible symbolism of transparency in the election process. … The committee is of the view that the abolition of the NTR would have a negative impact on the perception of the transparency of elections.".

reputational risks which could flow from a serious failure at election time, and sad experience in many countries has shown that trust typically takes a long time to build up, but can be lost quickly. Most Parliaments and EMBs therefore want to minimise risk, and design processes accordingly. Major public failures are therefore rare, providing little evidential basis for inferences to be drawn concerning the willingness of the community to accept particular levels of risk.

4.32 There have, however, been some cases, either repetitive or one-off, which can provide some insights in this regard.

- The diversity of Australia's voting channels in fact makes it possible for some people to vote more than once, and a reasonable estimate of the number who in fact do so (usually as a result of confusion associated with advanced age) can normally be made. The numbers in question are made public, and have not led to any widespread community outcry: the risks in question are seen as manageable, not least because the average number of such votes per division is comparatively small.
- There are, occasionally, major failings in ballot handling; the disenfranchisement of voters in the division of Boothby at the 2010 federal election is a case in point. Notwithstanding the involvement of a significant number of ballots, the perceived legitimacy of the election was not seriously compromised, and the outcome of the election was not challenged in court. The event appears to have been seen as a random failing, rather than one evincing major systemic shortcomings.

4.33 That having been said, an EMB, unlike a private company, cannot simply decide to pitch at a chosen sector of the market: it has equal obligations to all citizens. Risk management cannot be done in a way which is discriminatory, or which seeks to treat threats to the integrity of some individuals' votes as in some sense statistically negligible.

Diversity of electoral processes in a federal system

4.34 The nature of Australia's electoral arrangements is very much influenced by the existence of nine substantially sovereign jurisdictions, each with its own EMB. This has created many opportunities for innovation, the flip side of which may be the adoption of diverse approaches to the solution of similar problems. In the short run this makes it unlikely that any one approach to an issue as complex as internet voting will become dominant.

4.35 **Appendix B** provides a brief summary of the current state of legislation which might govern or impinge upon the use of internet voting. At present, only New South Wales, Victoria, Tasmania and the Northern Territory have laws in place which in the view of their EMBs make some form of internet voting possible. **Appendix C** sets out current positions of ECANZ members in relation to internet voting.

5. Rights and obligations

5.1 This Part documents and analyses relevant high-level principles which should be taken into account when making decisions on the appropriate place for internet voting.

5.2 Implicit in the concept of identifying a possible place for internet voting in a jurisdiction's electoral system is the notion that such an innovation should, in some sense, make the system more accessible to a diversified group. This directly implies a need to elaborate fundamental principles which can be used as points of reference to determine what constitutes a legitimate election, or an improvement over the *status quo*. The intention here is therefore to identify some of the more widely-accepted general principles relating to rights and obligations which are most relevant to the issue of internet voting, while noting that in practice some principles may be in conflict with each other, at least to some extent.[62] The implications which some of these principles may have for internet voting are further addressed in Part 7. In the first instance, however, the sources of principles need to be identified.[63]

Constitutional law

5.3 The first such source is constitutional law. While Australia has a written constitution, as do all of its States, those documents' provisions governing the conduct of elections and methods of balloting are relatively sparse. Sections 8 and 30 of the Australian Constitution express one important principle applicable at federal elections, a requirement that in the choosing of members or of senators, "each elector shall vote only once".

Instruments and documents elaborating principles relevant to internet voting

5.4 **Appendix D** sets out extracts from a range of different declarations, covenants and other documents which state principles deemed relevant to the conduct of free, fair and credible elections. While they have not in general been incorporated in Australian domestic law, a number of them represent express morally binding commitments which Australia has made.[64] It should be noted that **no** international instrument purports to

[62] Quite apart from the question of whether particular models of internet voting might be acceptable in principle, there will always be a host of practical questions - for example, costs and benefits - to be considered. Some of these are touched upon on Part 7 below.
[63] This issue is addressed in some detail in the second chapter of the *Electoral Reform Green Paper - Strengthening Australia's Democracy* (Australian Government (2009, pp. 18-22)).
[64] In that context, it should be noted that Australia was one of eight nations involved in the drafting of the *Universal Declaration of Human Rights* adopted by the United Nations General Assembly in 1948; Australia is a State Party to *the International Covenant on Civil and Political Rights* of 1966; and Australia has signed and ratified the *Convention on the Rights of Persons with Disabilities*. In addition, the 1994 Inter-Parliamentary Union *Declaration on Criteria for Free and Fair Elections* was supported by the Australian delegation to the Inter-Parliamentary Council meeting at which it was adopted.

elaborate a specific right to vote on the part of citizens of a country who are part of an overseas diaspora.

5.5 Four of the policy matters addressed in the texts set out in **Appendix D** are particularly relevant to internet voting:

- the absolute right to a **secret ballot** and the uniform priority given to it, and fact that the secret ballot has the character of an obligation placed on the state;
- the need for any balloting process to guarantee the **free expression of the will of the electors, without fear or intimidation**;
- The need, explicitly stated in the Inter-Parliamentary Union *Declaration on Criteria for Free and Fair Elections*,[65] for States to "take all **necessary and appropriate measures to ensure the transparency of the entire electoral process** including, for example through the presence of party agents and duly accredited observers"; and
- The need to ensure **universal and non-discriminatory access to the right to vote**, with particular reference to persons with disabilities.

5.6 In the Australian context, the first two of these have long been seen as inextricably linked, and are considered together below.

The secret ballot, and free expression of the electors' will, without fear or intimidation

5.7 A secret ballot is typically argued to provide a necessary, though not always sufficient, safeguard against fear and intimidation, since, properly administered, it makes it almost impossible for an intimidator to determine whether his or her wishes have been followed or ignored by the voter.[66] It is also argued to reduce the efficacy of attempts at bribery or vote-buying, by making it difficult for the buyer to confirm that the vote has been cast as he or she wished.[67]

[65] Inter-Parliamentary Union (1994). See Appendix D, paragraphs D5 and D6.

[66] In some post-conflict polls in other countries, it has been thought desirable not only to ensure the secrecy of the vote of each individual, but also to disguise voting patterns of particular villages or communities. This is typically achieved by mixing ballot papers from different sources at a central counting station before they are sorted according to the votes they bear. Such processes were used, for example, at the Cambodian election of 1993, and the "popular consultation" ballot of 1999 which led to the independence of East Timor. In both cases, there had been concerns that voters could be intimidated by threats of collective rather than individual retribution.

[67] A secret ballot is usually seen as a necessary, though not always sufficient, mechanism for discouraging bribery and vote buying. Also of considerable significance is the configuration of processes to ensure that a voter who has cast a vote privately cannot prove to a corruptor that the latter's wishes have been followed. Examples of such mechanisms include a ban on taking photographs in, or cameras into, polling places; and the provision typically found in electoral laws that a vote cast on a paper ballot will be informal if it bears writing or marks identifying the voter. In

5.8 The concept of the secret ballot is frequently referenced but less often clearly defined. As noted at **Appendix D**, paragraph D10, the Federal Court of Australia, in the leading case of *Re William Joseph Yarran v Michael Blurton and others* [1992] FCA 199,[68] has observed among other things that:

> "Physical isolation of the voter and a system for separating or keeping separate the voter's identity and the record of the vote cast are essential elements of the modern understanding of the secret ballot.".

5.9 The archetypical mechanism for ensuring secrecy is the classic "Australian ballot": the conduct of polling at polling places organised by the EMB, at which ballot papers prepared by the EMB are issued to eligible voters, marked by them in private voting compartments, and immediately deposited in a ballot box. Under such arrangements, the EMB takes responsibility for ensuring that the voter is able to vote privately, and the voter is (or at any rate is supposed to be) prevented from showing his or her ballot paper to anyone who might be minded to pay for a vote to be cast for a particular party or candidate.

5.10 As noted at paragraph 3.4 above, alternative arrangements are, however, often put in place to cater for voters who are unable to attend a polling place; and in Australia such exceptional arrangements have included provision for voting in close proximity to a polling place; postal voting away from polling places; the provision of assistance to blind, disabled or print handicapped voters when marking their ballots; voting overseas by military forces in time of war; and the conduct of Antarctic voting in circumstances in which the secrecy of the vote cannot be guaranteed. Such schemes are typically characterised either as consistent with the objective of a secret ballot, or as representing a legitimate derogation from it in circumstances where the only alternative would be the outright disenfranchisement of the affected voters.

5.11 Paradoxically, internet voting has been argued to be capable of both enhancing and derogating from the secrecy of the ballot.

- As noted in Part 3 above, it has been clearly demonstrated in practice that appropriately designed electronic interfaces can make it possible for persons who otherwise would be dependent on assistance to mark a paper ballot to vote without assistance, thereby enhancing in that respect the secrecy of their votes. A facility of this type can be provided via the internet using kiosk voting, mobile internet

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polities where attempts at vote buying are rife, ingenious mechanisms, such as the so-called "Tasmanian Dodge" (Fredman (1968, p. 10)), have sometimes been used by voters and their co-conspirators to prove that votes have been cast in accordance with payments made.

[68] Federal Court of Australia (1992).

voting or remote internet voting; or through an electronic voting process not involving the internet, such as that used in the ACT.

- It has, however, also been argued that security weaknesses in the internet could enable the way in which a person votes (or has attempted to vote) over the internet to be discovered.
- Email voting and remote internet voting are also said to have the potential to compromise secrecy because, unlike voting at a polling place, they take place in an unsupervised environment, giving rise to the possibility that someone can be present, with or without the voter's consent, and can see for whom the vote has been cast.

5.12 Regarding the first of these points: as detailed in Part 3 above, the need to provide an opportunity for BLV voters to cast their votes without being dependent on assistance has been a significant driver for the introduction of electronic voting mechanisms in Australia. Studies of the use of such mechanisms at the 2007 federal election, the 2011 NSW election, and a series of ACT elections have confirmed their efficacy.

5.13 Regarding the second point, as noted at paragraph 1.9 above, it has been deemed beyond the scope of this paper to evaluate the arguments which have been raised regarding internet security, but the issue is one which any community considering the introduction of internet voting needs to address.

5.14 Underlying the third point are two different views of the character and objectives of a secret ballot.[69]

The secret ballot as a matter of shared community interest

5.15 The first view is that "secret balloting" is not just a right given to individual voters which can be taken up or set aside by them at will, but a characteristic of the overall election process in which all voters have a shared interest. Jones and Simons (2012, p. 350) express this view as follows:

> "The secret ballot was instituted to protect against voter intimidation; as such, each voter has a right to the assurance that other voters have not been intimidated into disclosing their ballots or into voting a particular way.".

Such a view of the process could reasonably be inferred from the laws currently governing legislative elections in Australia and New Zealand, which in general prescribe that votes, whether cast at a polling place or remotely, must be marked secretly; this being expressed through the specification of procedures which the voter is, on the face of it, legally obliged to follow.

[69] For a more detailed discussion of these two views, see Barrat i Esteve, Goldsmith and Turner (2012, pp. 44-48).

5.16 More generally, the history of the introduction of the "Australian ballot", both in Australia and around the world, points to that having been motivated not just by a desire to better protect individual rights, but also by the need to effect systemic improvements in electoral processes and politics.[70]

5.17 An analogy might be drawn with the process of vaccination: while that is primarily designed as a way of protecting the health of individuals, it also has an important societal, public health dimension, in that comprehensive vaccination holds out the hope that fell diseases may be eliminated from a community.

5.18 The policy implications of the adoption of this view are that:

- voters should in general be required to vote in conditions of state-guaranteed secrecy (i.e., at polling places, or in circumstances where there are officials present), with derogations from that only permitted when the alternative would be to disenfranchise the voter, or to force him or her to incur substantial costs or inconvenience; and
- even where secrecy is not state-guaranteed, there will be a legal responsibility placed on the voter to vote secretly.

The secret ballot as a right which individuals should have the opportunity to exercise

5.19 An alternative view of "secret balloting" is that its essence is that all voters have the **opportunity** to vote in secret. In association with this, however, some or all voters may be offered alternative unsupervised remote voting channels, such as postal voting or remote internet voting, under which secrecy cannot be state-guaranteed (either to the voter, or to other voters or stakeholders who may believe they have an interest in the process surrounding (as distinct from the content of) other electors' votes).

5.20 It is important to emphasise that an opportunity to vote secretly must be a genuine one given the circumstances of individual voters, rather than one that exists only on paper. In that context, it should be borne in mind that a voter who has concerns about voting in an unsupervised channel may also feel compromised in his or her ability to make an overt choice to use a supervised voting channel, such as a polling place.

5.21 The policy implications of the adoption of this view are that:

- it can legitimately be left to the voter to choose the voting channel which best fits his or her needs;
- the casting of a vote in conditions of "state-supplied" secrecy is something which an individual voter may "trade off" in order to make use of a mechanism which is,

[70] McKenna (2001); Fredman (1968).

for him or her, more convenient, even if that is not strictly necessary to ensure that he or she can vote without substantial personal cost or inconvenience; and

- such "trade offs" fall within the private sphere of each individual voter.

Free expression of the electors' will, without fear or intimidation

5.22 The *Macquarie Dictionary (4th ed.)* primarily defines "fear" as "a painful feeling of impending danger, evil, trouble, etc". To "intimidate" is:

> "**1.** to make timid, or inspire with fear; overawe; cow. **2.** To force into or deter from some action by inducing fear: *to intimidate a voter*".

Intimidation is therefore an action, which implies the objective existence of an intimidator. Fear, on the other hand, is a feeling or sense, subjectively experienced, which may or may not have a rational basis.

5.23 The factors which contribute to potential levels of fear and/or intimidation in a society are complex, and can vary greatly from country to country, and over time.[71] Individual fear, and intimidation directed towards an individual, may be a product of an individual's circumstances and relationships, but is likely to be greatly influenced by the overall situation and atmosphere in a country. In post-conflict countries, intimidation may at times have been almost a way of life, fear can be pervasive, and people may see political campaigns as likely to re-open old wounds and may have experienced elections as flash points leading to violence and destruction. If people sense that an incumbent government will refuse to accept defeat at an election, and therefore fear to vote it out, they are, in effect, victims of collective intimidation aimed at the entire electorate.[72]

5.24 Established democracies, on the other hand, tend to be characterised by relatively high degrees of political tolerance and civility; acceptance of the importance of respect for democratic processes; and a widespread public censure of intimidatory tactics by political players. Social disincentives to misbehaviour are strong, and effective.[73]

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[71] Birch (2011, p. 48) notes that according to the "Index of Electoral Malpractice" expounded in her study, "voter intimidation and/or obstruction" is strikingly more manifest in the former Soviet Union and in Sub-Saharan Africa than in Latin America and the Caribbean.

[72] For a discussion of this in the Cambodian context, see Sanderson and Maley (1998, p. 247).

[73] Smith (2013, p. 4) discusses this issue in the Australian context, and emphasises that:

> "Australia currently has a number of strong non-technical safeguards against voter interference. These include public avenues for complaints by electoral stakeholders, an independent electoral administration, low general levels of corruption, relatively high living standards, an egalitarian individualist culture, and a strong civil society.".

He concludes (at p. 43) that:

> "The argument and evidence presented in this report point to an extremely low presence and risk of voter coercion or bribery in contemporary Australia. Isolated small pockets of expressive coercion

5.25 The polling place - established, managed and secured by the EMB - provides the archetypical mechanism for ensuring that voters need not, at least when casting their ballots, be fearful or intimidated. That conception of its role may, however, be somewhat idealised.

- While voting in a secure environment may provide protection against individually directed intimidation, it will not by itself protect against pervasive fear of the type mentioned in paragraph 5.23 above. (That having been said, a large turnout at polling places in the face of fear, as was seen at the East Timor "popular consultation" in 1999, may constitute a powerful social statement in defiance of intimidation, as well as reinforcing individual feelings of bravery.)
- In a truly dangerous environment, it will not suffice to create a safe environment at polling places, since voters may be in danger when travelling from their homes to vote, or returning after voting.
- In addition, in the worst cases, attempts may be being made to intimidate voters into boycotting the polls, and the very act of going to the polling place may attract the intimidators' wrath. (In such a situation, the ability to choose an alternative voting channel could actually assist voters, though the ability of a country facing such problems to be able to establish credible, high integrity alternative voting channels would have to be a matter of doubt.)
- If, on the other hand, the social environment in a country is benign, and intimidation for political purposes is almost unthinkable, the environment at the polling place will have little contribution to make to people's sense of safety. (In that context, it may be noted that formal "security" is almost never required at polling places in Australia, in contrast to the situation applying in many parts of the world.)

5.26 All of that having been said, however, two further points needs to be emphasised.

- The obligation placed on the state, and on EMBs, is to seek to ensure to the greatest extent possible that all voters are able to vote without fear or intimidation. "Expressive coercion"[74] may in some cases affect a relatively small number of

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may currently occur in families, religious groups and the like; however, these are so small as to register only as vague suggestions in public discussion.".

[74] Smith (2013, p. 17) describes this phenomenon as follows:

> "Instead of aiming to achieve a particular electoral outcome, the perpetrator aims to ensure that members of their group affirm the identity or values of that group through their actions. Examples of such groups would include families, rural estates, villages, trade unions, companies and sects. The affirmation of group identity by voting in a particular way (or by not voting) reinforces existing power structures within the group. From the point of view of powerful figures in the group (fathers, religious leaders, etc.), it is best if compliance is based on an acceptance of their legitimate authority. Where this fails, coercion can be used to ensure compliance and maintain the group's sense of itself.

voters, and therefore be unlikely to impact on an election result; but from the point of view of each individual voter so expressively coerced, his or her free exercise of the franchise may have been 100% compromised, and this must be a matter of concern to EMBs, and to the state.

- Expressive coercion may be extremely subtle in character. On this, Birch and Watt (2004, p. 66) note that:

> "The dominant currency of the home is typically that of emotion, rather than that of money or brute force. Within the emotional economy of the home, psychological pressure may well have the same if not greater power to alter behaviour as that of money or force in the public arena. So, though more subtle and difficult to identify, emotional coercion may pose just as serious a threat to democracy - indeed, these very qualities may make it even more worrisome. The common distinction between the 'public' and 'private' spheres breaks down when we consider the complex overlapping spheres of 'privacy' within the home. Acts that are 'private' within the family may not be sufficiently private for individual family members.".

- Voting at polling places may in its own subtle way help to counteract this, not by providing any physical protection, but by taking the voter into a different environment from the home, where the atmosphere emphasises individual autonomy, the exercise of personal rights, and participation in a structured public act of choice.[75]

Transparency

5.27 The concept of transparency (as implicitly elaborated in paragraph 5.5 above) can be viewed in two different ways.[76]

Bribery is rarely if ever used to secure expressive votes, since the groups involved tend to be close-knit and hierarchical.".

[75] This point is elaborated by Birch (2003), as follows;

> "We have a right to family life, but we also have rights within family life - the right to be free from physical coercion, for example. If we introduce into this complex equation civic rights, the situation gets more complicated still. We then have a civic right - and a civic duty - that must be protected in the context of the home. But this is difficult. In the domestic context, civic duty could well give way to immediate personal duty, civic norms of equality could give way to cultural domestic norms of dependence, honour and obedience. This is where the distinction between the public and the private breaks down, where the voter is caught uncomfortably between competing value systems. A person should be able to be both a good citizen and a good family member without having to sacrifice one of these roles. Yet that is what the seemingly innocuous move of bringing voting into the home has the power to do: it may place voters in the difficult position of having to make choices between performing their family duties or their civic duty. It is all too plain that family duties will in most cases win the day; many voters will simply not be able to afford to jeopardise their domestic harmony and financial security for the sake of preserving the integrity of their miniscule contribution to the electoral process.".

[76] For a discussion of this and other issues associated with transparency, see Barrat i Esteve, Goldsmith and Turner (2012, pp. 27-32).

- From one perspective, it can be seen as a set of instrumental arrangements intended to achieve an even more fundamental objective, that the body politic will trust and accept election results as reflecting a legitimate expression of the societal will.
- Transparency may also, however, be seen as a right in itself, the argument being that political parties and, more generally, the people (whose will is declared by the *Universal Declaration of Human Rights* to be "the basis of the authority of government") are inherently entitled to know about, understand, and judge the propriety of, the way in which elections are conducted.

5.28 The second of these points is fundamentally a philosophical position, albeit one which would be widely regarded as reasonable and even obvious. The first, however, can be considered from an empirical point of view: to what extent do transparency mechanisms in fact enhance trust and the acceptance of election results? As discussed at paragraphs 4.28 and 4.29 above, transparency is but one of a number of factors which contribute to trust. That having been said, it is possible (though by no means certain) that transparency may in a particular society be an essential component of trust, in that the use of intrinsically non-transparent election processes could potentially lead to a decline in trust, if not immediately, then in the long run.

5.29 The IPU Declaration pointedly emphasises the need for the transparency of the "entire" electoral process. In relation to internet voting, this is potentially challenging in two distinct ways.

- When voting take place at polling places, the process can readily be observed by scrutineers. Email voting and remote internet voting take place in venues chosen by the voter, and traditional scrutineering is impossible. (The same is true of postal voting, but not of kiosk voting and mobile internet voting.)
- When polling and counting involve manual processes which take place at polling places, counting centres etc., the entire process is visible to the naked eye. However, as highlighted at paragraph 2.6 above, when the internet becomes involved, much of the process takes place, metaphorically speaking, in "cyberspace", and different scrutineering mechanisms and techniques, based on different and more specialised and sophisticated skills, are required.

5.30 A further issue which arises when considering the principle of transparency is what information an EMB needs to give voters to enable them to make informed decisions regarding voting modalities: it would, at the minimum, seem reasonable to expect and insist that any voter who chooses to use an alternative voting channel rather than attending a polling place be put in a position of giving informed consent to any attendant risks to the secrecy and security of his or her ballot. In this spirit, it is currently made clear

to potential users of Antarctic voting at the federal level, and the Express Voting mechanism provided by the TEC for State elections, that the secrecy of their votes cannot be guaranteed. It would arguably be necessary for voters to be clearly informed about unresolved or "risk-managed" issues of internet security (of the type mentioned at paragraph 5.11 above) which create vulnerabilities which could compromise the secrecy or accurate recording of their votes.

Universal and non-discriminatory access

5.31 This principle, in contrast to some of those discussed above, is relatively straightforward in its application: all voters should be able to cast a secret ballot, and should be able to do so without incurring significant personal costs.

5.32 In general, the provision of a range of different voting channels, appropriately configured to the needs of a range of different classes of voters, will enable this requirement to be better satisfied. This, however, will not always be the case if the ultimate objective is not to increase the number of channels, but to replace some with others. If, for example, postal voting is supplemented by remote internet voting, the rights of those who need to vote remotely but are beyond the range of a postal service may be better served, without disadvantaging anyone who wishes to vote by post. If, however, postal voting is replaced by remote internet voting, those uncomfortable with the use of technology, or who do not trust the internet, will see themselves as disadvantaged.

Conflicts between principles

5.33 Finally, the point needs to be made that some of these principles may in practice turn out to be in conflict with each other. For example, remote internet voting may enhance the universality of voting, and enable secret ballots to be cast by persons who otherwise could only vote with assistance; but this may come at a cost of reduced or changed transparency of the process from the point of view of parties and candidates.

5.34 When such contradictions arise, a decision will need to be made on which principle should in the circumstances be given priority; and given the fundamental character of the principles in question, it is arguable that such decisions are ones which should be made by the community and its representatives, rather than by EMBs.

6. Potential motivations for the introduction of internet voting

6.1 This Part identifies potential benefits and likely beneficiaries from the use of internet voting.

6.2 Drivers for the introduction of internet voting fall into three main categories:

- provision of better service to individual voters or categories of voters;
- enhancements to the overall electoral process; and
- realisation of efficiencies in the administration of elections.

6.3 These categories are not necessarily mutually exclusive: if, for example, internet voting facilitates participation by people who would otherwise have been disenfranchised, they benefit directly, turnout will be increased in a way which would be seen as enhancing (at least to some extent) the legitimacy of the outcome; and the EMB will save money on non-voter follow up. They nevertheless provide a useful framework for thinking about the issues.

6.4 It needs to be emphasised that at this level of analysis, the specific model of internet voting chosen becomes significant: some will be more relevant than others to the achievement of specific objectives.

Provision of better service to individual voters

6.5 A major argument for internet voting is that it will facilitate voting by persons who otherwise would face challenges in participation. We can seek to exemplify categories of such voters, ranked by need, as follows.

Category of voters	Comments
1. Those who cannot vote except on the internet - There may be some voters for whom internet voting is the only possible way of voting. These may be people who cannot attend a polling place, pre-poll voting venue or mobile polling point, who live beyond the range of postal systems, who can only communicate or transact with the outside world through the internet, and who could not use some other voting modality, such as telephone or call centre voting.	The needs of these voters could only be met by email voting or remote internet voting, and their capacity to use email voting would be dependent on access to a scanner, which would be problematical in most cases.
2. Those who cannot otherwise cast a personal and secret vote - There will be voters who could use a voting channel other than the internet, but who by doing so would compromise the personal and secret character of their votes. Blind and low vision voters, deaf and blind voters, some print handicapped voters, and some disabled voters could fall into this category, as could Antarctic voters.	It is the electronic character of the act of voting, rather than the use of the internet *per se,* which benefits voters in this category: they would therefore benefit from kiosk voting, mobile kiosk voting or remote internet voting, but not from email voting, which would retain the manual marking of the ballot.
3. Those who can vote otherwise only at inordinate personal cost - There will be voters who could use a voting channel other than the internet to cast a personal and secret vote, but only in	Voters in this category could benefit from email voting or remote internet voting.

circumstances which would require them to incur significantly more than the nominal personal expense of voting which is reasonably expected of all voters. An example of a person in this category would be someone in a remote part of Australia, or an Australian voter living in an overseas country, remote from the Australian Embassy (if there is one), and beyond the range of the local postal service. The latter's only option, in the absence of internet voting, would be to make a potentially expensive and time consuming trip to the capital of the country (or, in the worst case, to the nearest neighbouring country with an Australian diplomatic mission) to vote in person. Some "fly in, fly out" workers appear also to fall into this category.	
4. Those for whom internet voting could reduce significant, though not insuperable, obstacles to accessing a polling place - This category encompasses voters who currently are entitled to vote by post, for whom internet voting could be a useful substitute, especially where the postal service may be problematical. It will include General Postal Voters, and people whose inability to vote at a polling place has become apparent only after the cutoff (statutory or practical) for the issuing of postal votes.	Kiosk voting would not meet this need.
5. Those who will benefit specifically from an electronic voting interface - This category encompasses voters who have special needs which could be more effectively met by the flexibility which an electronic voting interface can provide. Examples would be voters who have severe mobility issues or who are, because of a temporary disability, unable to write; voters who would benefit from easy access to audio or multi-lingual instructions on how to record the vote; voters who use screen readers; and voters who wish to refer to otherwise unavailable how-to-vote cards lodged by parties and candidates.	All forms of internet voting other than email voting could be potentially beneficial to voters in this category, though not necessarily to the same extent.
6. Those who will enjoy enhanced personal convenience - There will be people who could, without inordinate difficulty, vote using another mechanism, but for whom internet voting would still, all things considered, be more personally convenient or conducive to (though not decisive of) their ability to participate. This category could include electors who may currently utilise absent voting; people facing small	Kiosk voting would not meet this need. It should be noted that "convenience" is a subjective experience which will vary from voter to voter. Some voters may see both the ability to vote remotely and the ability to vote electronically as convenient. Others may be attracted by the idea of not having to attend a polling place, but may find an electronic interface less convenient than a paper ballot (especially

scale mobility challenges; people suffering from minor and unforeseen illnesses on polling day; people who find voting away from the political pressures of party workers at a polling place more conducive to the casting of a considered vote; and voters pressed for time to vote who encounter long queues on polling day.	when large ballot papers are involved).
7. Those who will have an enhanced sense of engagement with the election process - There will be some voters who will face no real difficulty in voting using existing modalities, but who will still feel a stronger psychological sense of connection with the process if it makes use of the internet, that being a medium of communication which to them is more familiar than traditional paper-based mechanisms.	The impact of the various models of internet voting from this perspective is likely to vary from voter to voter but is likely to be greater for younger voters who are more familiar with transacting online.

The special situation of blind and low vision voters

6.6 The ability for voters who are blind or have low vision to vote secretly and independently has long been a vexed issue. The *Commonwealth Electoral Act 1918*, like many other electoral laws in Australia and around the world, makes provision for a voter who cannot cast an independent vote to appoint a person or polling official to complete his or her ballot paper according to instructions. Alternative approaches evolved over a number of years.

- At the 2002 Victorian State election a braille template for ballot papers was trialled. By 2006, however, the VEC had abandoned this method in favour of a solution based on electronic voting machines (EVMs). The NSWEC and the Electoral Commission of Queensland have both produced braille ballot papers on demand, but in a local government election in NSW a braille ballot paper was not provided when requested, which led to the successful pursuit of a discrimination case against the NSWEC. This then led to the introduction of iVote.
- As early as the 1996 Western Australian election, the introduction of magnifiers and closed circuit television magnifiers was greatly welcomed by blindness advocacy groups. This led most EMBs to purchase flat magnifying sheets for on-demand use in polling places.
- When the ACT Electoral Commission introduced EVMs in 2001 they were not intended to address the issue of BLV voting, but it was soon realised that with the addition of some voice prompts and headphones, the system would greatly assist BLV voters in the casting of a secret and independent vote.
- By 2006 the VEC, TEC and the ACT all had EVMs, and the AEC followed with its electronic voting trial in 2007. In 2010 the AEC implemented Call Centre voting for BLV voters following the discontinuation of the use of EVMs. The BLV community did use this method but in the focus groups that followed a strong view was

expressed that this method was neither independent nor private, even though it was secret.

6.7 One of the unspecified benefits of the EVM was the confirmation process. Even if the voter could not use the EVM due to lack of computer ability or some other disability, the voter could have someone else complete the onscreen ballot and could then listen to the preferences that had been entered for each candidate before confirming and casting the ballot. This was seen as a great step forward from a polling official simply completing a paper ballot for the voter on the basis of trust.

6.8 Within the BLV community views have varied on the importance of an independent vote, with some being strongly in favour and others more ambivalent. In reviewing the use of the EVMs in the AEC trial, the majority of voters rated their experience "very good". Many voters were passionate about the freedom and the sense of liberation that using the machines gave them. There were some comments concerning the amount of time it took to travel to a site to use the EVM: because members of the blindness community generally travel only to familiar sites, travelling to a new site such as a pre-poll voting centre which is only established during the election proved challenging, with one voter asserting that it took four hours in total to travel and vote. The blindness support groups were very helpful in providing mobility instructions to the pre-poll centres, but it was still quite daunting for many.

6.9 In focus groups conducted with a mix of voters who had and had not used the EVMs, some were still of the view that they were quite happy to go to their local polling place and have their spouse/family member complete the ballot paper for them, and saw it no differently to someone doing their banking or their tax return. Others, however, were adamant in their support for their newly found independence provided through the use of the EVMs.

6.10 A comment consistently made was that the blindness community would prefer to use a method of voting that all voters were using. They often suggested internet voting, arguing that it could be used in the privacy of their own home, in an environment with which they were familiar, and with the screen reader or magnification tools that suited their particular sight disability.

Enhancements to the overall electoral process

Accurate capture of preferences

6.11 As noted at paragraph 2.10 above, kiosk, mobile and remote internet voting can be configured in such a way as to ensure that the voter does not (at least unknowingly) cast an informal vote. In addition, the recording of votes electronically reduces the incidence of preferential votes being set aside as "exhausted" during a scrutiny because numbers

written on a ballot paper are unclear or incomplete. The benefits of this have been well demonstrated at ACT elections since 2001. That having been said, several qualifications need to be noted.

- Neither of the mechanisms for reducing informality comes into play with email voting. Indeed, a ballot paper scanned at low resolution or photographed in poor light conditions and emailed could potentially be more difficult for polling officials to interpret than a hardcopy ballot.
- The marginal benefits of warning voters about impending informal votes will depend on the underlying formality criteria: the more complex the voter's task, the greater could be the potential benefit. Where informality is already relatively low - as at Senate elections, and in jurisdictions which use optional preferential voting - less impact would be expected.
- The extent of the benefit realised will be significantly influenced by the number of people who can utilise internet voting: as that number increases, more votes will potentially be saved.

Faster results

6.12 Internet voting has the potential in some situations to provide quicker election results. It is, however, important not to overstate the significance of this. It is most likely to be helpful in Tasmania and the ACT, where single transferable vote proportional representation is used to elect the governing Chamber. In those jurisdictions, a capacity to capture and apply preference data quickly can make it possible to know significantly earlier who is likely to form government. In the other Australian jurisdictions, the close election results typically associated with the single transferable vote are much rarer. The 2010 Australian federal election was the first one since the introduction of two-candidate preferred vote counts on election night in which the outcome was still uncertain at the end of the evening, and of course, even if the result in every seat had been known at the end of election night in 2010 with complete certainty, Australians would still not have known who was going to be supported by the independents to form a new government. While internet voting might make a difference at the margins in a few seats, there is little scope for much improvement in the speed with which overall election results are typically delivered, especially when legislation continues to provide for the receipt of postal votes after polling day, and to require relatively time-consuming processing of other declaration votes. Here, again, impact will depend on the number of people who use internet voting.

Turnout

6.13 Internet voting has the potential to impact on turnout in three different ways. First, it may directly increase the likelihood of voting by persons who basically are engaged with the electoral process and wish to vote, but face obstacles or inconvenience in making use of traditional polling mechanisms. The scale of increase in turnout would depend on the

particular internet voting modality chosen, and on the traditional facilities currently provided. For example, the potential impact of provision of remote internet voting to overseas or interstate voters would be greater for Australian State or Territory elections (for which only limited external voting facilities are currently provided) than for federal elections (at which voting is already made available Australia-wide, and through the extensive network of Australian diplomatic missions). However, federal elections would also benefit.

6.14 Secondly, it may motivate people who currently are disengaged from the political and electoral processes, and who do not turn out to vote, to do so in future. The likelihood that this potential benefit will in fact be realised is much more difficult to assess objectively. On that, several points can be made.

- The percentage of enrolled electors who vote at Australian elections has been relatively stable over a long period of time, because of compulsory voting and the easy access to the many polling places. One might therefore reasonably doubt whether people who are already insufficiently motivated to vote by the prospect of a penalty would be substantially more motivated by the availability of internet voting.
- Detachment from politics is a worldwide trend, driven by a host of different social factors, which may or may not be susceptible to technological solutions.
- To date, world-wide, internet voting has been implemented on a relatively small scale, often targeted at voters with special needs. There is therefore comparatively little reliable evidence available to confirm conjectures about the impact of internet voting as a stimulant for turnout.[77]

6.15 Thirdly, it might be argued that while the availability of internet voting will not necessarily increase turnout, it could prevent a potential disengagement from electoral processes postulated to flow from a foreshadowed growing sense among younger voters of alienation not from electoral processes *per se*, but from the use of antiquated voting mechanisms. This is indeed possible, but involves a good deal of speculation about future behavioural trends for which there is currently scant available evidence.

Modernisation

6.16 Australia's EMBs are all focussed on modernisation in thought, word or deed. The State and Territory EMBs are currently pursuing a range of technological innovations, beyond various electronic voting systems, which encompass a wide range of business areas. These include a variety of schemes to notify registered electors, both within

[77] On this, Vowles (2012) argues that while "more user-friendly and lower cost means of voting such as the internet could be introduced, there is little evidence that the 'cost' of voting is sufficiently high for such reforms to have a significant impact past an immediate period of novelty value".

Australia and overseas via email and SMS, of State and local government elections. Another common incorporation of technology is the use of electronic devices for marking-off voters; scannable cards have also been used in conjunction with these. Various forms like the postal vote application have become available on EMBs' websites, and there are "apps" which can provide the public, candidates and media with extensive information about an upcoming election, including progressive results after polling has closed. Optical character recognition software is also used to conduct counts where paper ballots are used. Finally, full automation of ballot paper printing has resulted in savings in the amount of paper used.

6.17 Modernisation is one of the three key themes given special emphasis in the AEC's *Strategic Plan 2009-2014*.[78] Therein, the organisation states an intention to: "review our methods for interacting with electors", aiming to "adopt modern technology to streamline processes and increase accessibility". The 2010 *Statement of Directions* which was the final output of the AEC's 2009-10 Business Review also emphasised modernisation, flagging as one element of a "future desired state" that "Citizens have electronic means of accessing electoral services and are encouraged to use them".[79]

6.18 Modernisation might be seen as an end in itself, to which some use of internet voting could contribute. It can also, however, be pursued as a means to other ends.

- Modern processes may ultimately be more likely to generate trust than antiquated ones, for the psychological reason that they may with the passage of time be more capable of generating a sense of comfortable familiarity.
- As time passes it will be harder for EMBs to access and sustain the skills needed to manage old-fashioned processes.

Public demand and expectation

6.19 Closely linked with the notion that internet voting would represent a form of modernisation is the sense that public expectations may make it inevitable that it will ultimately be adopted. This is often inferred from the fact that the public have taken up with enthusiasm the opportunity to pursue transactions online which were once performed manually. As noted at paragraphs 3.39 to 3.44 above, however, hard evidence in support of this proposition is lacking. Perhaps because voting at public elections is only an occasional activity, pressure for internet voting has predominantly come from groups with special needs which only it can meet.

6.20 One key imponderable is whether the provision of the opportunity to vote on the internet to one group within the population would inevitably lead eventually to irresistible

[78] Australian Electoral Commission (2009b).
[79] Australian Electoral Commission (2010).

public pressure for universal internet voting. Within the time horizon of this paper, such a development seems most unlikely. There are few if any examples in Australia of electoral reforms in relation to which public opinion has been the primary driving force, and the existence in the past of alternatives to ordinary voting has not led to its being supplanted as the primary, "gold standard" voting modality.

6.21 Other notable categories of voters who might be expected to be broadly in favour of internet voting include overseas electors, FIFO workers, and persons living in remote communities but with reliable internet connections (such as isolated sheep and cattle stations). The needs or desires of people in such categories are likely to become more pressing over time if mail services become less frequent.

Realisation of efficiencies in the administration of elections

6.22 Internet voting has the potential (which may or may not be able to be realised in practice) to give rise to efficiencies in the administration of elections in a number of significant respects.

Reduction of the logistical burden associated with manual processes

6.23 Elections are the largest and most complex logistical operations which a country undertakes in peacetime, typically engaging the entire adult population in a prescribed process implemented under tight time constraints. For the 2010 Australian federal election, over 43 million ballot papers were printed; over 50,000 ballot boxes, over 150,000 voting screens, and approximately 14,000 recycling bins were produced; and approximately 100,000 pencils and 140 kilometres of string were required. The production, distribution and retrieval of these materials is a massive task, with environmental as well as cost implications. In the aftermath of polling day, substantial resources also have to be devoted to the receipt, redirection and processing of declaration votes.

6.24 Internet voting has the potential to reduce in the long term, at least to some extent, these resource needs and logistical burdens. The scale of reduction will, however, depend very much on the model(s) of internet voting used, and the number of voters for whom the facility is provided.

6.25 One could, as a thought experiment, hypothesize the total replacement of all current voting modalities with remote internet voting. Under such a scenario, all current channels of voting would be eliminated, and the logistical and materiel savings would be total. From the point of view of the EMB, the election would simply be managed through a massive computer system accessible by voters through a website, and the great bulk of the EMB's efforts would be devoted to managing and maintaining the system and the

electoral roll. Such a scenario is extremely unlikely to be realised in the short to medium term.

6.26 Much more plausibly, internet voting could be offered as an alternative to existing mechanisms, and only to a fraction of voters. Under that scenario, however, logistical savings would be much more problematic. Since the number of voters who might choose to vote via the internet would, in the first instance, be difficult to predict, in the short run the only realisable savings might be those which could flow from decisions able to be made during the election process. For example, it is likely that the same numbers of ballot papers would have to be ordered, printed and distributed as before, but if the numbers of postal voters proved to be down because some had voted on the internet, savings could be made in casual staff who would otherwise have been employed to support the post-polling day processing of postal votes.

Overseas voting

6.27 The complexity of managing the process of overseas voting could be significantly reduced. Again, however, the scale of benefit would depend on whether internet voting replaced the current model of overseas voting, or supplemented it. If the latter were the case, many of the tasks which currently have to be performed would still be required, with the management of the internet voting process constituting an added burden on the EMB.

Access to required skills

6.28 As internet use becomes more widespread and large scale operations are increasingly computerised, EMBs are likely to encounter greater difficulties in finding people with the skills to manage large scale manual operations. The skills required to manage IT-based systems, on the other hand, are likely to become easier to obtain with the passage of time (though internet voting is rapidly becoming a specialised area even within the discipline of computer science, with which are associated technical skills which will likely not come cheaply).

Cost savings

6.29 The issue of possible cost savings is discussed at paragraph 7.23 below.

7. Issues regarding internet voting

7.1 This Part discusses challenges and concerns which could arise from the use of internet voting.

7.2 As noted at paragraph 1.2 above, internet voting is a controversial topic. While many debates about electoral policy in other areas appear to be motivated by different perceptions of partisan interest even where there is agreement at the technical level about

what is the best way to proceed, that is not the case in relation to internet voting: the disagreements are significantly underpinned by technical concerns.

7.3 It would be impossible in this paper to do justice to all the points raised in detail in what is now a large literature. This Part therefore seeks to flag matters which are worthy of close attention of both the EMBs and political policy makers of Australasian jurisdictions contemplating the possible use of internet voting. It should be emphasised that some of the issues discussed below relate to all models of internet voting, while others are only significant for particular models. In addition, issues which would be relevant if internet voting were adopted for all voting may have less significance if used for only a limited cohort.

Issues relating to the social context and character of elections

Voting as a public ritual

7.4 A fundamental test of the success of an electoral process is whether it is widely viewed by society as conferring legitimacy on the legislature or government elected. That may be strongly influenced by the sense of connection, or "ownership", which the voters have for the process. The value which voters place on electoral processes, and the sense of responsibility they feel for ensuring that such processes succeed, is one of the key factors that distinguishes established democracies from those still in transition.

7.5 Some commentators have placed particular importance on the role that the ritual of voting at a polling place can play in sustaining people's sense of shared civic engagement, and deplore the notion that it could be replaced by a process which, as they see it, downgrades the social significance of the act of voting. Valelly (1999), focussing on remote internet voting, expounds this argument as follows:

> "… Not only will e-voting fail to reverse electoral apathy, it will actually lead us in the wrong direction. Voting is more than the simple act of indicating one's political preference. It's a vital public ritual that increases social solidarity and binds citizens together.
>
> …
>
> So, if everybody will be able to e-vote, and if e-voting is essentially fraudproof, what could be wrong with it? The problem is that e-voting will transform voting, an inherently public activity, into a private one. Even with the secret ballot, the mechanics of voting are still explicitly designed to remind us that, in principle, we are all equal members of a political community. On Election Day, we must leave our homes and offices, travel to a polling place, and physically mingle with people who are plainly our equals that day, no matter what other differences we have. Voting, as we currently do it, is a civic ritual, however brief it may be.

> This ritual is valuable not just because it makes us feel good about ourselves. It also gets us to think about public issues differently than we would do otherwise. While it's generally assumed that people vote on the basis of their pocketbooks, surveys show that most people actually focus on things such as the national good, not their narrow self-interests, when they vote. One possible reason for this: when people are obliged to leave their homes and enter the public sphere, as they do when the vote, they tend to become more public minded.
>
> E-voting, then, might aptly be called "voting alone". If our era is a time of citizen disengagement, of staring at screens and passing in and out of our gated communities or apartment fortresses as we wave to private security personnel, then e-voting from home is all too congruent with the spirit of the age. Far from enriching democracy, e-voting pushes us towards political anomie….".[80]

On that, however, it should be noted that such concerns are primarily relevant to a situation in which remote internet voting totally supplants attendance voting, and have less force in relation to the use of email voting or remote internet voting by persons who are otherwise unlikely to be able to vote, or to vote secretly and personally, at all (unless one accepts a "thin edge of the wedge" argument that any use of remote internet vote will eventually and inevitably lead to its much more widespread (and perhaps 100%) use by voters). The issue of the role and importance of the ritualistic elements of attendance voting is ultimately one which needs to be decided at the societal and political levels, rather than by EMBs.

Maintaining the distinctive character of "serious" voting

7.6 It was noted at paragraph 4.29 above that as voters become more familiar with using the internet, that familiarity, if sensed also in the context of voting, could enhance the credibility of the voting process.

7.7 This issue can, however, be viewed from another perspective. It is relatively common on social media or other websites for people to be invited to "vote" on matters of trivia, such as the fate of contestants on reality television shows. It is at least arguable that there could benefits in reinforcing the use of a different channel of voting for public elections, if only to reinforce their serious and distinctive character.

Issues relating to the protection of the integrity of the voting process, and trust

7.8 As noted in Part 1, the extent to which it can be guaranteed that votes cast on the internet will not be susceptible to interference of one form or another has been a matter of vigorous dispute. This paper takes no stand on that issue, but flags it as one which any EMB or society contemplating the introduction of internet voting will need to address

[80] This point is also strongly emphasised by Birch (2003).

comprehensively at the time: potential users of such a system have a clear right to expect that due diligence will be exercised by those who decide on the implementation of internet voting. System integrity needs to be treated as a matter of objective fact, not perception.

7.9 In considering the risks of internet voting, it is important to bear in mind the diversity of possible motives which trouble-makers might have to attack the system. In considering electoral fraud in a broader international context, parties and candidates are normally regarded as primary sources of threat, with their motivations being ideological. In relation to internet voting, however, threats could conceivably come from:

- states or terrorist groups;
- persons who wish to manipulate an election result, possibly relating to quite a lowly office, in order to pursue financial interests;
- persons attracted by the idea of the fame or notoriety which could accrue to someone who had successfully attacked a high profile system; or
- opponents of internet voting in another country who might seek to use Australia as a venue for demonstrating what they saw as inherent weaknesses in the system.

7.10 Considerable disruption to the voting process could potentially be caused by the use of techniques (such as the distribution of emails with links to fake voting websites) which did not involve any "hacking" of the official internet voting system *per se*. While such contingencies might seem unlikely, Canada is currently having to address the question of how to deal with a somewhat similar scam perpetrated at the 2011 general election, in which robo-calls were used to mislead voters in relation to the casting of their votes (Elections Canada (2013)). In developing schemes for internet voting, there would potentially be much to be gained from close consultation with law enforcement authorities responsible for issues of data security and cybercrime.

7.11 One point which might be borne in mind is that the potential impact (and therefore perhaps risk) of fraudulent or malicious interference with a voting process is likely to be higher where electorates and margins of victory are smaller, and where election victory may place the victor in a position to profit personally.

7.12 Trust, on the other hand, is a matter of perception, and a system which deserves to be trusted may not be, while one that doesn't deserve trust may be. At paragraph 4.28 above, some of the diverse sources of trust in electoral systems were identified. In any given situation, there will be some people who will trust a process, some who will not, and some who will have no opinion. Societal trust arises when people in the first group greatly outnumber those in the second. This, however, is one of the reasons why trust tends to be built up over a long period of time: it is a process akin to building a coalition in favour of a particular scheme. This largely explains why the literature gives such strong support to the use of mechanisms which slowly and carefully consolidate trust over time. There

would be value in further analysis of the sources of trust in electoral processes in Australia; and it is worth contemplating how elections might come to be viewed if voters' interactions were, under a universal internet voting model, entirely with websites, rather than with polling officials and other citizens.

Secrecy of the ballot, and voting in a protected environment

7.13 As noted at paragraphs 5.15 to 5.21 above, the concept of the secret ballot can be viewed from two different perspectives: as an individual right, or as a social good. This has implications for whether society might have concerns about the number of people who might potentially vote remotely over the internet in an environment in which the actual secrecy of their votes, as distinct from their right to a secret vote, is no longer societally guaranteed.

7.14 Such concerns would be of least priority in cases where internet voting was targeted at persons who currently cannot vote in any other way, cannot vote secretly and personally, or can only vote at inordinate personal expense. In all of those cases, the principle of secret and protected voting can legitimately be weighed against the principle of universality, the right of all qualified voters to participate effectively and freely in the election process.

7.15 Greater concerns could be expected in situations where internet voting might lead to a larger percentage of persons voting in an unsupervised environment than is currently the case. In that context, it should be noted that where the criteria for voting by post and voting pre-poll are similar, the availability of internet voting could conceivably lead to a significant shift of voters away from attendance at a pre-poll voting centre towards unsupervised internet voting. Under such a scenario, parties and candidates might well be concerned at the loss of the opportunity to provide how-to-vote cards to voters.

7.16 The possibility of allowing re-voting calls for careful consideration. Attention needs to be paid to the question of whether re-voting limited to repetition of electronic votes, rather than re-voting also encompassing the possibility of a final re-vote at a polling place, would provide the sorts of protections which are postulated by supporters of re-voting processes. Consideration also needs to be given to the possible implications of allowing re-voting in the context of some Australian electoral processes but not all, and to the public information challenges which this could pose.

Transparency

7.17 The need for new transparency mechanisms to replace those associated with the paper ballot remains a matter of fundamental importance, and one which will rise in significance in direct proportion to the number of people actually using internet voting. Elaboration of such mechanisms is beyond the scope of this paper.

7.18 As noted at paragraph 5.30 above, one point which should be considered by EMBs is the nature of their obligations to provide voters with clear advice concerning the risks and vulnerabilities of any model of voting, including internet voting. EMBs might also consider the potential legal risks to an election associated with the use of a process which might subsequently be proven in court to have had significant vulnerabilities.

Timing of voting, and the campaign

7.19 Internet voting can be configured in such a way that a person may vote almost immediately after the close of nominations. If people are able to vote early like that on the internet, and significant numbers choose to do so, the traditional sense of the election campaign as something which precedes the voters' choice has the potential to be rendered obsolete. There is a need for societal consideration of how the voting and campaign processes should interact, and of the possibility of restricting the period in which internet voting might be made available so as to deal with any concerns arising from that issue.

Challenge of ballot structure and devices

7.20 The challenge of translating the ballot structure of a paper ballot into an appropriate electronic interface is likely to be an ongoing one, as the diversity of the devices (especially mobile ones) used for internet access increases.

Registering for internet voting, and voter identification

7.21 A societal decision will need to be made on what processes of identification might reasonably be expected in the case of someone seeking an email or remote internet vote. Registration of voters who qualify for an internet vote becomes an exacting process to ensure that the EMB is dealing with the voters themselves. Currently at a polling place a person seeking to vote presents in person and, standing before the polling official and scrutineers, announces his or her name and address, and claims not to have voted already at the election. When a voter registers for internet voting under current models there is limited data by reference to which an EMB can identify the applicant. Typically, the EMB will have details of a voter's full name, enrolled address and date of birth. Voters do not have an "account number", nor will they have they lodged a password with the EMB to transact online. While EMBs are beginning to collect email addresses and mobile phone numbers, that is not being done with the view to enabling the voter to undertake secure transactions with the EMB. Rather, the EMB is collecting that information to be able to contact or inform the voter. However, there is currently a "whole of government" approach to e-government for the Australian public. A person who is transacting with Centrelink, Medicare, Child Support, Veterans' Affairs or the National eHealth Record System can open an account at www.aus.gov.au, where the applicant is required to prove identity.

Witnessing

7.22 In a number of Australian jurisdictions, there continues to be a requirement for an authorised witness to be present when a person records a postal vote. Where a postal voter at a federal election is outside Australia and cannot find another person qualified to perform the witnessing function, the voter's passport details have to be supplied. By analogy with postal voting, consideration might be given to whether there might be an appropriate role for a witnessing mechanism in the context of email voting or remote internet voting.

Cost issues

7.23 A number of issues need to be taken into account when considering the potential cost of providing internet voting.

- Already, Australia has seen one case - the AEC ADF trials of 2007 - in which the relatively high per voter cost of an internet voting model was a key factor which led to its abandonment.
- Costs - both upfront and ongoing - are likely to be diverse and substantial, if only because the political sensitivity of any new voting modality dictates a need for EMBs to take all possible steps to minimise risk.
- The fixed development costs of implementing a high-integrity system of internet voting are likely to be largely independent of the ultimate number of users, and an EMB that chooses that path will need to be prepared to bear the cost of running its internet voting system in parallel with existing manual systems.
- A perceived need to ensure that systems reflect the latest expectations of internet users may well mean that redevelopment will be a permanent task, with associated ongoing system recertification costs. (For example, a model based on voting remotely on laptop or netbook computers would by now have been rendered dated by the increasing use of smartphones to access the internet.)
- The estimation of potential cost savings is a matter of considerable complexity, and a detailed analysis of the issue falls well beyond the scope of this paper.[81] Opportunities to offset costs with savings may be limited in the short term, not least because if internet voting is but one of several voting modalities provided as options, it may not be clear in advance how many voters will actually use it. (In that context, it might be noted that the increase in early voting at federal elections in recent years does not appear to have yet produced a proportional decrease in resources needed on election day.)
- The technical skills required for the development of internet voting systems in-house, especially in specialised fields such as cryptography, are likely to have to

[81] For more detailed discussions of the cost of internet voting, see International IDEA (2011), Goldsmith (2011, pp. 37-41),

be purchased. If, however, EMBs opt to purchase a system "off the shelf", they will still have to acquire new skill sets to enable them to choose an appropriate system, and to manage contracts.

7.24 Aside from these issues, careful consideration needs to be given to opportunity costs. In considering a major change such as the introduction of internet voting, it might well be thought justifiable to undertake net additional expenditure to ensure that it proceeds; but it is appropriate then to ask, and indeed to assess critically, where internet voting sits in the EMB's and the nation's electoral reform priorities. Experience in other countries where major projects have been undertaken to implement new technology highlights the risk that such an exercise may demand so many resources, and so much management attention, as to create serious obstacles to any other reform initiatives. The risk of disruption to an EMB's activities will be particularly great if attempts to implement internet voting do not enjoy bipartisan support.

8. Concluding observations

8.1 This Part sets out a number of observations relating to the possible place of internet voting in Australasia's electoral systems. These are not intended as prescriptive recommendations, but as pointers to issues which jurisdictions contemplating the use of internet voting might wish to consider in more detail.

1. In Australia and around the world, internet voting has only been taken up on a comparatively limited scale for public elections. This stands in stark contrast to the way in which internet-based activities have come to dominate many other fields of endeavour, and highlights the extent to which internet voting remains a matter of dispute.

2. There is no emerging crisis in Australasian voting practice, such as massive failure of paper supplies, to which the only possible response is the introduction of internet voting. That having been said, it would seem inevitable that paper balloting will, sooner or later, have to be replaced by some form of electronic voting, which may or may not involve the internet. Whether or not that development will constitute a crisis in itself will very much depend on how diligently EMBs have prepared for that contingency. For that reason, prudence clearly dictates that Australian EMBs should be starting now to increase, or to continue to increase, their focus on the challenges and prospects of electronic and internet voting; to enhance their in-house expertise in the area; to further explore opportunities for cooperation in system research and development, and to undertake appropriate pilot projects where the opportunities to do so arise.

3. A shift to universal internet voting would be a revolutionary development in the Australian context, producing what might be seen as a fundamental change in the character of electoral processes. Such a change is not being advocated by any Australasian EMB, nor does it appear to be being pushed at the political level.

4. Whether the use of internet voting on a smaller scale to meet the needs of particular groups of voters would inevitably lead to its use on a larger scale is a matter worth considering.

5. Any decision-making on whether, and if so how, to use internet voting in an acceptably secure way will need to be based on a robust risk assessment and management process which takes into account:

    - the nature of vulnerabilities;
    - the probability that they will be exploited;
    - the impacts which any such exploitation could have;
    - strategies which could be put in place to mitigate any such impacts;
    - the willingness of relevant stakeholders (e.g. governments, political parties, parliamentary representatives, EMBs and members of the voting public) to live with a particular identified level of residual risk; and
    - comparative risks associated with other voting modalities, including those currently used.

6. A number of the issues raised in this paper relate to the place of elections in Australia's system of democratic government, or to their fundamental character. While EMBs may have views on them, and be in a position to provide useful commentary or advice, they are properly matters for consideration at the societal or parliamentary level.

7. Assessments of the viability of internet voting need to be approached holistically, taking into account not just implications for polling and counting but also for campaigning. The legitimate expectations that stakeholders such as candidates, parties and scrutineers have regarding the way in which they will be able to perform their functions also need to be given full weight.

8. Any process for the implementation of internet voting needs to be supported by a strong and informed public and political consensus in favour of such a move. The development of such a consensus is likely to be an objective realisable only in the long term, but an incremental approach, starting with pilot or small scale implementations, and proceeding at a rate with which key stakeholders are comfortable, would seem likely to provide a reasonable way forward.

9. Societies and EMBs need to assess critically and realistically the cost and resourcing implications, including opportunity costs, of the introduction of internet voting.

10. From the perspective of voter enfranchisement, the most compelling case for the use of internet voting in the short term (assuming that technical concerns about the process can be adequately addressed) would appear to arise in relation to voters for whom it would be a "game changer": those who cannot otherwise vote at all, or cannot otherwise vote secretly and personally. An initial focus on such voters would be less problematical in terms of issues of vote secrecy and the voting environment than a more widespread use, and would be readily justifiable on the basis of the important principle of universality of access, especially for people with disabilities.

11. An initial focus on a relatively small cohort of voters could also serve as a useful risk mitigation strategy, in the sense that if problems arise, the smaller the number of voters affected, the lesser will be the probability that the result of an election will have been influenced.

Appendix A - Consideration of electronic or internet voting by federal parliamentary committees

The 1998 Federal Election - Report of the Inquiry into the conduct of the 1998 Federal Election and matters related thereto - JSCEM - June 2000

A1. The Committee received public submissions that a computerised voting system would reduce costs and that the AEC should make use of the TAB electronic betting grid. The Committee dismissed these suggestions, saying that such a system would not be an effective measure against security, fraud and efficiency concerns at the time.[82]

The 2001 Federal Election - Report of the Inquiry into the conduct of the 2001 Federal Election, and matters related thereto - JSCEM - June 2003

A2. Electronic voting was considered under a proposed change to the electoral system. The Committee identified advantages - secrecy for assisted voters, convenience and counting - and disadvantages - security, logistics and cost.[83] The AEC provided a report on an internet voting system trialled in the USA for the Democratic Primaries in Arizona and found that:

> "widespread internet voting assumes a secure infrastructure of voter terminals that simply does not exist. The average computer user is relatively untrained in defence procedures regarding viruses.".[84]

A3. Emphasis was also placed on the considerable transparency that paper based voting provides.[85] The New Zealand service of downloading a ballot paper and declaration certificate from a secure internet site was also noted.[86] The Committee commented that it did not support the AEC's recommendation to proceed with unspecified pilot trials of electronic voting.[87]

[82] Joint Standing Committee on Electoral Matters (2000, paras. 4.83-4).
[83] Joint Standing Committee on Electoral Matters (2003, paras. 7.54-5).
[84] Joint Standing Committee on Electoral Matters (2003, para. 7.60).
[85] Joint Standing Committee on Electoral Matters (2003, para. 7.61).
[86] Joint Standing Committee on Electoral Matters (2003, para. 7.63).
[87] Joint Standing Committee on Electoral Matters (2003, para. 7.67).

The 2004 Federal Election - Report of the Inquiry into the Conduct of the 2004 Federal Election and Matters Related Thereto - JSCEM - September 2005

A4. The Committee considered the concept of remote electronic voting in a general sense, including methods which would come under the definition of internet voting in this paper and other systems. Some of the advantages of remote electronic voting were that defence force personnel serving overseas and Antarctic electors could use the system, allowing a secret vote to the latter; with further beneficiaries considered being overseas, remote and disabled voters.[88] Disadvantages included security concerns, lack of transparency, increase in potential for coercion and intimidation, insufficient campaign time and the violation of the secret vote.[89]

A5. It was recommended that the AEC trial remote electronic voting for overseas Australian Defence Force (ADF) and Australian Federal Police personnel and for Australians living in the Antarctic.[90] It also stressed that these trials were not to be seen as a precursor to wider implementation.[91]

Report on the 2007 federal election electronic voting trials - Interim report of the inquiry into the conduct of the 2007 election and matters related thereto - JSCEM - March 2009

A6. In this report, the Committee examined both the remote electronic voting trials for the ADF personnel serving overseas and the trial of electronically assisted voting for blind and low vision electors. Neither system technically used the internet. The former used the more secure DRN. The latter used computers connected to a secure local area network.

A7. The Committee recommended that due to high costs, and additional burdens placed on defence force personnel in operational areas, electronic voting should not be continued.

Report on the conduct of the 2007 federal election and matters related thereto - JSCEM - June 2009

A8. The Committee referred to a supplementary submission from the AEC, which suggested that due to the high cost of providing electronic voting machines at static polling places for blind and low vision electors, perhaps the "voting software that underpinned the electronic voting trials is deployed over the internet rather than on

[88] Joint Standing Committee on Electoral Matters (2005, paras. 11.120-126).
[89] Joint Standing Committee on Electoral Matters (2005, paras. 11.127-130).
[90] Joint Standing Committee on Electoral Matters (2005, rec. 43).
[91] Joint Standing Committee on Electoral Matters (2005, para. 11.136).

hardware in a polling place".[92] The recommendation from the Committee was that the AEC continue to work with the appropriate organisations to develop alternative arrangements which provide viable, secret and independent voting.[93]

Australia's Overseas Representation - Punching below our weight - Inquiry of the Foreign Affairs Sub-Committee - Joint Standing Committee on Foreign Affairs, Defence and Trade - October 2012

A9. The Committee noted that the AEC commented that there was an increasing expectation by Australian electors travelling or residing overseas to be able to interact with the Australian Government through electronic means.[94] There were several methods nominated for overseas voting, one of which was voting over the internet.[95] The AEC noted that while online voting is an attractive proposition at a superficial level, there were questions about its reliability.[96]

Cancer of the bush or salvation for our cities? Fly-in, fly-out and drive-in, drive-out workforce practices in Regional Australia - Inquiry into the use of 'fly-in, fly-out' (FIFO) workforce practices in regional Australia - House of Representatives Standing Committee on Regional Australia - February 2013

A10. The Committee recommended that:

> "… the Commonwealth Government charge the Australian Electoral Commission to develop an electronic voting system for voters living or working in remote areas to facilitate easier access and ensure more accurate population figures are recorded.".[97]

A11. The Committee considered that although initial costs may be high, "it is essential to preserve and support ease of access to voting for dispersed populations".[98]

[92] Joint Standing Committee on Electoral Matters (2009b, para. 11.42).
[93] Joint Standing Committee on Electoral Matters (2009b, rec. 49).
[94] Joint Standing Committee on Foreign Affairs, Defence and Trade (2012, para. 4.117).
[95] Joint Standing Committee on Foreign Affairs, Defence and Trade (2012, para. 4.118).
[96] Joint Standing Committee on Foreign Affairs, Defence and Trade (2012, para. 4.121).
[97] House of Representatives Standing Committee on Regional Australia (2013, rec. 16).
[98] House of Representatives Standing Committee on Regional Australia (2013, para. 5.79).

Appendix B - State and Territory Legislation

General

B1. In no State is it difficult to obtain a postal vote. All jurisdictions specify broad categories of who may so vote, and although there may be penalty provisions applicable to people who apply for a postal vote when not entitled to one, their enforcement would be a very costly and near impossible exercise.

New South Wales

B2. The Electoral Commissioner is given power to approve procedures for technology assisted voting but any procedure must provide for: the pre-registration of eligible electors, the making of records of those who vote; the authentication of the vote; the maintenance of the secrecy of the vote; the secure transmission of the vote, and the physical production of the completed ballot paper for bundling.[99] Penalty provisions relating to maintaining secrecy for technology assisted voted are also provided,[100] as is a penalty provision to protect computer hardware and software from interference.[101]

Victoria

B3. The *Electoral Act 2002* (VIC) provides for electronic voting at an electronic voting centre for specified electors.[102] The Act requires the Commission to ensure that any electronic voting systems are secure from interference and that the integrity of voting is maintained.[103] A witness is required for postal voting.[104]

Queensland

B4. The *Electoral Act 1992* (QLD) requires that an elector request a ballot paper from an issuing officer.[105] For posted declaration votes, which can be cast by an ordinary postal voter, a witness is required.[106]

Western Australia

B5. The *Electoral Act 1907* (WA) prescribes specific ballot paper requirements.[107] Polling places must have separate compartments which are to be furnished with a

[99] *Parliamentary Electorates and Elections Act 1912* (NSW) s. 120AC.
[100] *Parliamentary Electorates and Elections Act 1912* (NSW) s. 120AG.
[101] *Parliamentary Electorates and Elections Act 1912* (NSW) s. 120AI.
[102] *Electoral Act 2002* (VIC) s. 110D.
[103] *Electoral Act 2002* (VIC) s. 110F
[104] *Electoral Act 2002* (VIC) s. 106.
[105] *Electoral Act 1992* (QLD) s. 107(3).
[106] *Electoral Act 1992* (QLD) s. 119.
[107] *Electoral Act 1907* (WA) s. 113.

pencil.[108] An elector casting an early vote must have a witness, and vote so that the witness does not see the vote.[109]

South Australia

B6. The *Electoral Act 1985* (SA) explicitly outlines the marking of the ballot paper by a voter and specifies that this must be done in private.[110] If a declaration vote is cast away from a polling place then a witness is required.[111] If two or more declaration ballots papers from a single elector are received then the first is accepted and the remainder rejected.[112]

Tasmania

B7. The *Electoral Act 2004* (TAS) permits the Commission to approve any procedures that are reasonable and appropriate to assist an elector who is otherwise unable to vote.[113] Additionally, the Commission may approve procedures to enable an elector, external to Tasmania, to vote at an election.[114]

Australian Capital Territory

B8. The *Electoral Act 1992* (ACT) provides that the ballot papers may be in electronic form and that the Commissioner can approve a computer program to be used for electronic voting.[115] The subsequent section requires that those devices and programs to be used for electronic voting must be kept secure from interference at all times.[116] Additionally the Act provides that paper ballots must made be available at a polling place.[117] In order to maintain secrecy of the vote, a provision explicitly prohibits any photographing of a completed ballot.[118] There is no requirement for a witness in order to cast a postal vote. The Act requires that attendance voting must be done in private.[119]

Northern Territory

B9. The Electoral Commissioner has the power under the *Electoral Act* (NT) to approve electronic or other automated systems for targeted groups of voters which include disabled voters.[120] The ballot paper requirements are prescribed by the

[108] *Electoral Act 1907* (WA) s. 110.
[109] *Electoral Act 1907* (WA) s. 92(2)(c).
[110] *Electoral Act 1985* (SA) ss. 76 & 79.
[111] *Electoral Act 1985* (SA) s. 82(1)(c).
[112] *Electoral Act* 1985 (SA) s. 91(2).
[113] *Electoral Act 2004* (TAS) s. 113(1).
[114] *Electoral Act 2004* (TAS) s. 132.
[115] *Electoral Act 1992* (ACT) ss. 114 & 118A.
[116] *Electoral Act 1992* (ACT) ss. 118B.
[117] *Electoral Act 1992* (ACT) s. 131.
[118] *Electoral Act 1992* (ACT) s. 315A.
[119] *Electoral Act 1992* (ACT) s. 134.
[120] *Electoral Act* (NT) s. 85A.

Regulations.[121] A witness must be present for postal voting.[122] The Act requires that attendance voting be carried out in private.[123]

New Zealand

B10. There is no legislative requirement for identification to be shown at a polling place.[124] Once a voter has received a ballot paper he or she must retire to a compartment to vote alone and secretly;[125] however, a voter may elect to receive assistance in certain circumstances.[126] A category of special voters exists, and different methods of voting can be prescribed for different classes of special voters.[127] Those who qualify as special voters include those not on the printed roll, absent from their district on polling day, overseas, ill, or pregnant; and those covered by grounds of religious objection. The form of ballot papers which can be used by special voters is prescribed by the *Electoral Regulations 1996* (NZ). To apply for a special vote, a declaration must be witnessed.[128] A specific category of special voter is the overseas special voter, who can be electronically issued a ballot paper.[129]

[121] *Electoral Act* (NT) s. 40.
[122] *Electoral Act* (NT) s. 67.
[123] *Electoral Act* (NT) s. 53.
[124] The *Electoral Act 1993* (NZ), s. 166 provides for certain questions to be put to voters where a person is suspected of dual voting. There is no general provision for a person to be questioned as to their identity when they vote in NZ.
[125] *Electoral Act 1993* (NZ) s. 168(1).
[126] *Electoral Act 1993* (NZ) s. 170.
[127] *Electoral Act 1993* (NZ) ss. 172(1) & (2).
[128] *Electoral Regulations 1996* (NZ) s. 20. Technically all advance votes are special votes under s. 61(3) of the *Electoral Act 1993*. However, since 2011 the requirement to complete a declaration has been done away with for voters who vote in advance in a voting place where their name can be marked off the roll.
[129] *Electoral Regulations 1996* (NZ) s. 45A.

Appendix C - Current positions of ECANZ members in relation to internet voting

Commonwealth

C1. At present, the legal framework for federal elections does not provide for internet voting. It would be possible, under the Commonwealth Electoral Act 1918 as it currently stands to make regulations permitting kiosk voting for BLV electors, but not mobile internet voting, email voting, or remote internet voting.

New South Wales

C2. New South Wales currently has legislation in place providing for internet voting and telephone voting. NSW intends to expand the use of this facility: details of its plans are set out in New South Wales Electoral Commission (2013b). Resources are purchased for each election. The software is acquired through an RFT, however NSW retains control of the election processes and database.

Victoria

C3. There is currently no legislation in place to support remote electronic voting: coverage is only for electronic voting in polling places. These kiosks have internet connectivity, but the vote is cast in the polling place. The Victorian Parliament's Electoral Matters Committee is currently investigating the benefits of all models of electronic voting. Details of the VEC's plans are set out in Victorian Electoral Commission (2013).

Queensland

C4. There is a degree of interest at the political level in the use of internet voting for BLV voters, and for electors in remote areas. Because State and local government elections are held in close proximity, any such system would probably have to be introduced concurrently for both levels of government. Queensland would be unlikely to be in a position to develop a system on its own. Legislative change would be required, specifically to the procedures for voting currently prescribed.

Western Australia

C5. Internet voting would have potential for certain classes of voters, similar to the cohorts covered in New South Wales. There is a potential to use electronic voting in smaller commercial elections. Current legislation makes no provision for internet voting.

South Australia

C6. There are no plans to implement electronic voting, nor is there any substantial discussion of such an option at the political level (though at one point interest was being shown in the possibility of providing such a facility to BLV voters). At election time,

relatively few votes are cast outside South Australia. The Electoral Commission of South Australia is not funded to undertake research and development in the area of internet voting.

Tasmania

C7. Currently there are no plans for internet voting beyond the Express Voting facility and the BLV kiosks being used at parliamentary elections. A recent proposal for the use of internet voting at local government elections was considered by a parliamentary committee, but not adopted.[130]

C8. In theory, current legal provisions could allow particular cohorts of electors to vote via any means deemed reasonable and appropriate by the Commission. At present, however, the cost to the TEC of developing a system of internet voting on its own would be prohibitive.

Australian Capital Territory

C9. There are no plans for remote internet voting due to the compact nature of the Territory. Pressure may come eventually from voters who are beyond the reach of the postal system. The ACT Electoral Commission has implemented a system of internet voting for Yes/No commercial ballots, but lacks funding and resources to pursue the implementation of internet voting further. While some current legal provisions might theoretically provide a basis for the introduction of some forms of internet voting for some groups, the better view is that a further mandate would need to be sought from the Legislative Assembly, given doubts as to whether such an interpretation was intended.

Northern Territory

C10. There are neither plans to implement, nor political pressure for implementing, electronic voting. Internet voting would be challenging in the territory due to its demographic makeup and difficult geography, which leads to limited connectivity. Faxes are still used extensively.

New Zealand

C.11 The *Electoral Amendment Regulations 2013*, due to come into force on 1 February 2014, will enable overseas voters to upload completed ballots and their declaration to a secure portal on the Commission's website at the 2014 general election. The right to a secret ballot is waived when completing the declaration. NZ is implementing an e-government project where citizens can opt in and be issued with a unique electronic identity credential. This may be considered should any internet voting be suggested in the future.

[130] Parliament of Tasmania (2012, pp. 29-34).

Appendix D - Instruments and documents elaborating principles relevant to internet voting

D1. Various international instruments and other analytical documents seek to:

- declare human rights or political rights; and/or
- identify criteria for, or principles relevant to the conduct of, free and fair elections; and/or
- commit countries to a recognition of such rights, and to the conduct of such elections.

In the extracts from some of these documents set out below, provisions and requirements relevant to internet voting are *italicised* thus.

D2. A major effort has been made in the last 20 years to define global, regional or national standards for the conduct of free, fair and credible elections. The texts set out in this Appendix are by no means exhaustive, and represent only the most important sources of guidance with direct relevance to Australia. Additional analyses, and references to further relevant documents, can be found in Goodwin-Gill (2006), Elklit and Svensson (1997) and Elklit (2000).

The Universal Declaration of Human Rights

D3. The Universal Declaration of Human Rights, proclaimed by the United Nations General Assembly on 10 December 1948, states that:

> "Article 2
>
> Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status...
>
> Article 21
>
> Everyone has the right to take part in the government of his country, directly or through freely chosen representatives...
>
> The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which *shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures*.".

The International Covenant on Civil and Political Rights

D4. While the Universal Declaration of Human Rights is non-binding, its provisions have been further elaborated upon in binding international agreements including the *International Covenant on Civil and Political Rights* (ICCPR). The ICCPR, to which Australia is a party, provides that:

"Article 2

Each State Party to the present Covenant undertakes to respect and to ensure to all individuals within its territory and subject to its jurisdiction the rights recognized in the present Covenant, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

Where not already provided for by existing legislative or other measures, *each State Party to the present Covenant undertakes to take the necessary steps, in accordance with its constitutional processes and with the provisions of the present Covenant, to adopt such laws or other measures as may be necessary to give effect to the rights recognized in the present Covenant*...

Article 25

Every citizen shall have the right and the opportunity, without any of the distinctions mentioned in article 2 and without unreasonable restrictions:

To take part in the conduct of public affairs, directly or through freely chosen representatives;

To vote and to be elected *at genuine periodic elections which shall be by universal and equal suffrage and shall be held by secret ballot, guaranteeing the free expression of the will of the electors*...

Article 26

All persons are equal before the law and are entitled without any discrimination to the equal protection of the law. In this respect, the law shall prohibit any discrimination and guarantee to all persons equal and effective protection against discrimination on any ground such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.".

The Inter-Parliamentary Union Declaration on Criteria for Free and Fair Elections

D5. International standards relating to electoral democracy are now embodied in a wide range of documents. One useful source of these standards is the *Declaration on Criteria for Free and Fair Elections* (the IPU Declaration), which was adopted by the Inter-Parliamentary Council of the Inter-Parliamentary Union on 26 March 1994 with the unanimous support of the delegations present, including Australia. Whilst the IPU Declaration is not legally binding on members of the Inter-Parliamentary Council, including Australia, it has been argued to have significant authority and moral persuasiveness as it is founded in principles of 'international law and in the practices of states and international organizations'.

D6. The IPU Declaration recommends principles and standards including that:

- no eligible citizen shall be denied the right to vote or disqualified from registration as a voter, otherwise than accordance with objectively verifiable criteria prescribed

by law, and provided that such measures are consistent with the State's obligations under international law;

- every voter has the right to equal and effective access to a polling station in order to exercise his or her right to vote;
- the right to vote in secret is absolute and shall not be restricted in any way whatsoever;
- everyone has the right to join a political party or organisation for the purposes of competing in an election;
- everyone individually and together has the right to express political opinions without interference; and
- states should take the necessary legislative steps and other measures, in accordance with their constitutional processes, to guarantee the rights and institutional framework for periodic and genuine, free and fair elections, in accordance with their obligations under international law."

Instruments elaborating the rights of specific groups

D7. An instrument of particular significance is the *Convention on the Rights of Persons with Disabilities*, of which article 29 ("Participation in political and public life") provides, among other things, that:

> "States Parties shall guarantee to persons with disabilities political rights and the opportunity to enjoy them on an equal basis with others, and shall undertake:
>
> a) To ensure that persons with disabilities can effectively and fully participate in political and public life on an equal basis with others, directly or through freely chosen representatives, including the right and opportunity for persons with disabilities to vote and be elected, inter alia, by:
>
> i. Ensuring that voting procedures, facilities and materials are appropriate, accessible and easy to understand and use;
>
> ii. Protecting the right of persons with disabilities to vote by secret ballot in elections and public referendums without intimidation, and to stand for elections, to effectively hold office and perform all public functions at all levels of government, facilitating the use of assistive and new technologies where appropriate;
>
> iii. Guaranteeing the free expression of the will of persons with disabilities as electors and to this end, where necessary, at their request, allowing assistance in voting by a person of their own choice;
>
> …".

Principles identified in the 2009 *Electoral Reform Green Paper*

D8. Paragraph 2.10 of the Australian Government's 2009 *Electoral Reform Green Paper - Strengthening Australia's Democracy* (Australian Government (2009)) sets out a series of principles which, it argues, "might be regarded as the basic principles of an electoral system for Australia". They include the following:

- Representation: Elected legislative bodies should reasonably reflect the voting preferences of the Australian electorate. Representatives from the diversity of the Australian community should be able to stand for election to legislative bodies. *Balloting processes should enable voters to truthfully express their choices between candidates or parties*. …
- Universality: Qualifications for voting should be universal and non-discriminatory, and all persons qualified to vote should have equitable access to enrolment and to voting, without undue difficulty or inconvenience. *Appropriate processes and facilities should be devised to cater for electors whose specific needs would make ordinary voting unduly burdensome.*
- Neutrality: Elections should be administered impartially, by politically neutral and independent bodies. Election management bodies should perform their functions in a way which promotes public trust in them, and in the election process. *Voters should be able to vote in politically neutral venues.* There should be protections against the inappropriate use of the resources of the state for political benefit.
- Transparency in electoral administration: Participants in electoral processes should have access to adequate information about the basis for decisions on the operation of the electoral machinery.
- Integrity: Appropriate mechanisms should be put in place to:
  - *guarantee a secret ballot*;
  - *ensure that campaigning and voting is free of any fear or intimidation*;
  - preclude voting by persons not qualified to do so;
  - preclude anyone from voting more than once;
  - *provide for external scrutiny of electoral processes*;
  - *ensure that votes are not bought or sold*; and
  - enable votes to be counted and tabulated quickly and accurately, without any fraudulent interference.
- Rule of law: Electoral processes should be governed by clear and unambiguous laws and procedures, providing genuine opportunities for complaints about the process to be lodged and dealt with in an even-handed and transparent way. *Electoral processes should be appropriately open to scrutiny and challenge by parties, candidates and voters*. …
- Flexibility: *Within appropriate boundaries, there should be mechanisms in place to enable prompt adjustments to be made to processes and procedures to reflect changes in societal expectations, and to take advantages of opportunities arising*

from technological change. This should be balanced against the need to ensure sufficient stability to maintain public trust and confidence in electoral systems.

Ethical obligations on election administrators

D9. The *Code of Conduct for the Ethical and Professional Administration of Elections* published in 1998 by the International Institute for Democracy and Electoral Assistance (International IDEA) flags the importance of transparency, accuracy, and provision of service to voters, as follows.

> **"ETHICAL PRINCIPLE 3**
>
> **Election administration must be transparent**
>
> 15. For an election to be successful, participants in the process have to feel able to accept the decisions of the election administration. Those participants will most likely feel able to accept those decisions if they can easily satisfy themselves that the decisions were made appropriately. To do that, they must have access to the information on which decisions are based.
>
> 16. Of course, each election will generate a large amount of data, extensive databases, and many documents. Generally, it is not practical to provide access to, or copies of, all the data or every one of those documents to every person who may want access or copies.
>
> However, election administrators should be prepared:
>
> (i) To justify their decisions.
>
> (ii) To make freely available the information on which each decision was based.
>
> (iii) To arrange effective and reasonable access to relevant documents and information, within the framework of the country's electoral and freedom of information laws.
>
> 17. In addition, election administrators and administrations should:
>
> (i) Ensure that the agents of each political party or candidate can fully and effectively exercise their legal rights.
>
> (ii) Consult with participants in the electoral process on a regular basis, and in relation to specific decisions, if it is appropriate to do so in the circumstances.
>
> (iii) Provide an explanation, in response to reasonable requests, for a decision they have made as part of the electoral process, or a decision made as part of the general operation of the election administration.

(iv) Establish a system that allows interested parties to access, in a timely manner, all critical information, documents and databases used in an election process, or used in the normal operation of the election administration.

(v) Disclose any deficiency in the administration of an election if it comes to their attention.

ETHICAL PRINCIPLE 4

Election administration must be accurate

18. It follows from the discussion of Ethical Principle 3 that, for decisions of election administrators to be satisfactory to the participants, the information on which the decision is based must be accurate as well as accessible. Inaccurate or unreliable information can undermine confidence in both the administration's decisions and its general competence.

19. Election administrators and administrations must perform every task on the basis of the highest standards of accuracy of information and objectivity of analysis. In particular, they should:

(i) Ensure that information is collected, compiled, and published in a way that is systematic, clear, and unambiguous.

(ii) Do anything necessary, within the country's legal framework, to ensure that all the information they compile, use or publish has sound factual basis.

ETHICAL PRINCIPLE 5

Election administration must be designed to serve the voters

20. Election administrators and administrations should work to provide to every voter the highest quality service required to enable voters to exercise their rights with the least possible inconvenience, given the circumstances and the country's legal framework. In particular, they should:

(i) Make it as convenient as possible for voters to participate in the election process.

(ii) Ensure that voters adequately understand the election process.

(iii) Do everything possible to provide a way to vote for people with special needs, such as blind, physically handicapped, or illiterate voters, or voters living in remote areas.".

The concept of the secret ballot in Australian law

D10. In Australia, the concept of the secret ballot has been subjected to judicial interpretation, most notably in the leading case of *Re William Joseph Yarran v Michael*

Blurton and others [1992] FCA 199,[131] which turned on the requirement in the *Aboriginal and Torres Strait Islander Commission Act 1989* that voting at ATSIC Regional Council elections be by secret ballot. Delivering the Court's judgement, Justice French (now Chief Justice French of the High Court of Australia) made the following observations in the course of a detailed analysis:

> "41. The history of legislative and judicial approaches to the requirement for secrecy in voting demonstrates variations in understanding of the necessary elements of a secret ballot. The different approaches to very similar voting arrangements adopted by Gray J. in Pullen's case and Olney J. in Brahim suggest that contemporary views of what is necessary may differ according to the circumstances of the case. Accepting that there is a range of possible voting systems which would answer the description "secret ballot", the question is what are the minimum necessary conditions to be met before a voting system can be so characterised. It must be answered by reference to the purpose of the secret ballot. In relation to parliamentary, local government and union elections, that purpose is to encourage voters to exercise a choice for their preferred candidate free from the possibility that any social, economic, physical or other sanctions may be applied to them for voting or not voting in a particular way. Where the vote cast cannot be known, promises to vote in a specific way cannot be verified. In the absence of information about the vote cast, threats and inducements have little or diminished force.
>
> 42. Having regard to the purpose of the secret ballot, the mechanism adopted must enable the elector to cast a vote in private, that is to say without disclosing it to any other person, and must enable the anonymity of that vote to be protected. This may be achieved by methods which would be described as physical or mechanical. They may be supported by the imposition upon electoral officials of appropriate statutory duties of non-disclosure. The question whether a given mix of techniques constitutes a secret ballot involves an assessment of the extent to which it achieves the objectives of a private vote and protection of anonymity. What is clear, in my opinion, is that despite the use in Victoria in 1856 of a system under which the voter's electoral number appeared on the ballot paper, that would not be accepted as a secret ballot today. Physical isolation of the voter and a system for separating or keeping separate the voter's identity and the record of the vote cast are essential elements of the modern understanding of the secret ballot. The provisions under which blind, illiterate or incapacitated electors cast their votes with the assistance of an electoral official is a compromise adapted to the particular class of case. It would not be understood as a secret ballot if applied to the wider population of electors.".

[131] Federal Court of Australia (1992).

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