Office of the Associate Minister of Local Government

Cabinet Economic Growth and Infrastructure Committee

Councillors’ progress on plans to trial online voting in the 2016 local elections

Proposal

1. I propose Cabinet note that I do not consider a trial of online voting can be enabled to proceed in the 2016 local elections. In the context of this decision, the local government sector should consider how to proceed, including whether it wishes to work towards a trial in future local elections.

Executive summary

2. Eight territorial authorities interested in trialling online voting in the 2016 local elections were invited to demonstrate that online voting can be trialled in a manner that meets the Government’s trial requirements and the principles of Local Electoral Act 2001. In early February 2016, these councils submitted reports discussing the extent to which these requirements can be met.

3. Councils have well-developed plans for a trial in 2016. However, many of the key milestones are yet to be achieved. Based on the progress to date, I cannot be confident the statutory preconditions for authorising regulations will be met. In these circumstances, I do not consider that a trial can be enabled to proceed in the 2016 local elections.

4. In the context of the decision not to authorise a trial of online voting at the 2016 local elections, I will invite the local government sector to consider how it should proceed. This is an opportunity for the sector to think strategically about the local electoral system, and plan for incremental and demonstrable progress towards the potential introduction of online voting in local elections. It is also an opportunity to consider more immediate ways of improving accessibility and participation in the local electoral system.

Background

5. In recent years, the Justice and Electoral Committee, a number of local authorities, Local Government New Zealand (LGNZ) and the New Zealand Society of Local Government Managers (SOLGM) have all called for exploration of the potential of online voting for local elections.

6. In September 2013, Cabinet agreed to establish an Online Voting Working Party (the Working Party) to consider the options, costs and security issues of online voting in local elections [Cab Min (13) 29/7 refers]. Cabinet considered the Working Party’s report in July 2014, and noted its findings [Cab Min (14) 405 refers].1 The Working Party’s key finding was that a trial of online voting in the 2016 local elections is feasible, but that the Government should take the lead on the development and testing of one online voting system for use by councils.

1 The Working Party’s Terms of Reference were explicit in making Parliamentary elections out of scope. The initiative under consideration is not intended to be a precursor to the introduction of online voting at General Elections.
7. In December 2014, Cabinet agreed [EGI Min (14)(20/14) refers] that while there was no principled objection to a trial of online voting for local elections in 2016 or as reasonably practicable thereafter, any trial would have to be led by local government. It was also agreed that a trial would not be enabled until local government demonstrated that an online voting trial can meet security expectations and operate in accordance with the principles of the Local Electoral Act 2001. 2 The Government’s requirements for a trial of online voting in the 2016 local elections were agreed, as a yardstick against which councils could demonstrate they can meet these objectives.

8. In November 2015, I informed Cabinet that eight territorial authorities had confirmed their interest in participating in a trial of online voting in the 2016 local elections and obtained agreement to publish a set of revised trial requirements. The eight councils are Whanganui, Rotorua, Matamata Piako, Selwyn and Masterton District Councils, and Porirua, Palmerston North and Wellington City Councils. Cabinet agreed that those territorial authorities would provide sufficient scale and representativeness to ensure a trial would produce evidence of the practicality and value of online voting in local elections. Cabinet also noted my intention to:

   8.1 invite those territorial authorities to demonstrate they can meet the revised trial requirements; and
   8.2 report back to Cabinet once the territorial authorities have demonstrated to my satisfaction, that online voting can be trialled in a manner that meets the trial requirements and the Local Electoral Act 2001 [CAB-15-MIN-0227 refers].

Comment

There are sound reasons to consider a trial of online voting in local elections, but the process needs to be right

9. This Government has previously recognised that New Zealanders want to deal with government in new and different ways and that there is a need to respond to that. The message to agencies has been to re-think the way they deliver services, particularly given the public desire to access government services digitally. This has been the impetus for work under Result Area 10 of the Better Public Services programme.

10. Local authorities are also facing increasing community expectations for the digitisation of services. These expectations are driving the sector’s desire to use online voting for local elections, which currently rely on postal voting methodology. There are mixed views about whether online voting technology is sufficiently advanced to meet security and integrity expectations in an affordable way. Postal voting for local elections also entails some risks, but it is familiar and the risks are largely accepted by the public.3 It is in this context that I sought to provide interested councils the opportunity to demonstrate that online voting could be trialled in a manner that similarly meets expectations and maintains public confidence.

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2 By section 139(2) of the Local Electoral Act 2001, the statutory precondition that must be met for a trial of online voting to proceed is for the responsible Minister to be satisfied that the voting method will be able to operate in a manner consistent with the principles set out in that Act. The relevant principles relate to ensuring public confidence in and understanding of local electoral processes, protecting freedom of choice of voters and the secrecy of the vote, and transparent voting methods and procedures that produce certainty in electoral outcomes. The trial requirements aim to ensure these principles are met.

3 It is important to note that the blind and visually impaired community have expressed dissatisfaction with the voting experience in local elections, because of security and privacy concerns associated with assisted voting.
11. However, it is important to bear in mind that a trial of online voting has implications for subsequent local elections. As such, any trial of online voting needs to be set up with the best chance to demonstrate its viability, and should not be premature.

**I am not satisfied the trial requirements can be met in time for a trial this year, and therefore that compliance with Local Electoral Act principles can be assured**

12. In early February 2016, the eight interested councils submitted reports discussing the extent to which the Government’s trial requirements can be met. Appendix A provides a summary table of councils’ progress in demonstrating compliance with the Government’s trial requirements, based on those reports. Councils have well-developed plans for a trial in 2016. However, many key milestones have not yet been able to be achieved. Based on the progress to date, I cannot be confident the statutory preconditions for authorising regulations will be met; specifically, that public confidence will be retained. Key milestones that would contribute to the maintenance of public confidence but that are yet to be achieved include:

- independent review of the source code for voting systems;
- whole-of-system penetration testing;
- independent assurance of key aspects of the trial requirements; and
- development of a detailed coordinated national communications strategy.

13. Further work planned for the upcoming months may allow for a greater level of confidence. However, there is insufficient time to allow a further opportunity for councils to report back before authorising regulations would need to be made to enable a trial in the 2016 local elections. Authorising regulations need to be in place by mid-June at the latest, for which, policy approval by Cabinet is needed now.

14. There are significant timeframe pressures in preparing for a trial in this year’s local elections. These issues and pressures exacerbate the risks inherent in a trial, and would limit opportunities for assessing future and ongoing compliance with trial requirements. A compressed timeframe also does not engender public confidence, an important principle underpinning the Local Electoral Act 2001 and a statutory precondition for the creation of authorising regulations under section 139(1)(c). As such, I do not consider that a trial should proceed in the 2016 local elections.

**I consider the local government sector should determine how it wishes to proceed in light of the decision that a trial of online voting at the 2016 local elections will not be authorised**

15. This is an opportunity for the sector to think strategically about and plan for incremental and demonstrable progress towards a trial of online voting in future local elections. It is also an opportunity to consider more immediate ways of improving the local electoral system. As the agency responsible for the Local Electoral Act 2001, I expect the Department of Internal Affairs to be engaged in conversations with the sector, both about online voting and also more broadly about options to address current and future issues in the local electoral system, such as improving accessibility and elector participation for all New Zealanders including Māori, Pacific peoples and members of other ethnic communities.
16. Further work towards a trial of online voting by the local government sector should take into account the lessons learned from the process we have been through. It is not only important that voting technology is technically secure and robust. It is equally important that systems to be used are seen to be secure and allow the public to have confidence in the local electoral system. With this in mind, I have sought advice from InternetNZ\(^4\) on ideas for constructive community engagement. Some of the options that it has put forward, which I will encourage the local government sector to consider, include:

a) **Engaging the voting community**: As per the advice on the Online Voting Working Party, local government should be seeking to run staged implementation whereby communities can become familiar with the online voting system through:
   
   - Organising workshops to help people share their views and show them the online voting systems.
   - Non-binding trials such as referenda and mock elections (this is international best practice).
   - Using the system in small-scale politically binding trials such as by-elections.
   - Trial the technology in selected sites.

b) **Engaging the technical and academic communities**: The technical and academic communities can provide considerable help to an online voting trial. Their confidence in the confidentiality, integrity, availability and privacy of the online voting system will be critical to ensuring successful use of online voting systems. Suggestions include:
   
   - Organising workshops to help people share their views and discuss how different groups and parts of the community can be involved in making online voting a success.
   - ‘Open sourcing’ online voting system source code so that academic research teams and open source advocates can review and contribute to the betterment of the software.
   - Running a bug bounty, enabling New Zealanders to contribute to the security of the online voting.\(^5\)

**Consultation**

17. This paper was prepared by the Department of Internal Affairs. The Treasury, the Ministries of Justice, Health, and Pacific Peoples, the Offices for Disability Issues, Senior Citizens, and Ethnic Communities, the Privacy Commissioner, and the Electoral Commission have all been consulted in the development of this paper. The Department of the Prime Minister and Cabinet has been informed. Local Government New Zealand has been involved throughout the process.

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\(^4\) InternetNZ is a non-profit organisation that promotes the internet’s benefits and uses, and protects its potential. InternetNZ was represented on the Online Voting Working Party referred to in paragraph 6.

\(^5\) A bug bounty is a testing process that involves offering a reward for finding and reporting a bug in a particular software product. Many IT companies (including Google, Microsoft and Facebook) offer bug bounties to drive product improvement and get more practical feedback (particularly in relation to exploits and vulnerabilities) from end users and clients. The reason a bug bounty is considered effective over and above security measures such as penetration testing is because of the different incentives involved; a bug bounty provides tangible rewards whereas security experts are being contracted to carry out a service.
18. I have also personally sought the advice of members of the IT community.

19. The Minister of Local Government has agreed to the submission of this paper in accordance with the delegation to the Associate Minister of Local Government, of all matters relating to a potential online voting trial in local elections.

Financial implications

20. There are no financial implications arising from the proposals in this paper. Any future exploratory work by the Department would be funded out of existing baselines.

Legislative implications

21. There are no legislative implications arising from the proposals in this paper.

Human rights, gender and disability perspective

22. There are no human rights or gender implications arising from the proposals in this paper. I have previously noted that the development of online voting as a voting method would assist the visually impaired and other disabled people to vote independently. It would also advance New Zealand’s implementation of the United Nations Convention on the Rights of Persons with Disabilities, specifically Article 29(a)(i) on participation in political and public life. Enhancing accessibility for electors is a key factor in my consideration of the options going forward, and a particular area of analysis for the Department of Internal Affairs (discussed in paragraph 15).

Publicity

23. The announcement of a decision not to allow a trial of online voting in 2016 is likely to disappoint the eight councils and their election service providers, but also the wider local government sector and the disability sector. A range of reactions is likely from other stakeholders and interest groups. I have made contact with each of the Council Mayors to inform them of these decisions in advance of the public announcement. Officials at the Department of Internal Affairs will inform other key stakeholders.

24. Because of the level of public interest in a trial of online voting, and in order to facilitate engagement with the local government sector, I intend to proactively release this paper together with the associated Cabinet minutes and publish them on the Department of Internal Affairs’ website. Previous papers and minutes on this matter have been proactively released.
Recommendations

25. The Associate Minister of Local Government recommends that the Committee:

1. note that on 16 November 2015, Cabinet:
   1.1 agreed that the eight territorial authorities that confirmed their interest in participating in a trial of online voting in the 2016 local elections provide sufficient scale and representativeness to ensure a trial will produce evidence of the practicality and value of online voting in local elections;
   1.2 noted that the Associate Minister of Local Government intends to:
      1.2.1 invite the eight territorial authorities to demonstrate they can meet the Government’s trial requirements;
      1.2.2 report to EGI once they have demonstrated to the satisfaction of the Associate Minister of Local Government that online voting can be trialled in a manner that meets the trial requirements and the requirements of the Local Electoral Act 2001;

2. note that the Associate Minister of Local Government is not satisfied the Government’s trial requirements and the requirements of the Local Electoral Act 2001 can be met in time for a trial in the 2016 local elections and that a trial should not proceed;

3. note that in light of recommendation (2), the Associate Minister of Local Government considers the local government sector should consider how to proceed, including whether it wishes to work towards a trial in future local elections;

4. note that any future plans for an online voting trial by the local government sector should be on the basis of a strategic plan for incremental and demonstrable progress towards online voting in local elections, and should provide for constructive community engagement;

5. agree that the Associate Minister of Local Government may proactively release this Cabinet paper together with the related Cabinet Committee minutes and publish them on the Department of Internal Affairs website; and

6. invite that the Associate Minister of Local Government to make immediate public announcements about the matters/decisions sought in this paper.

Hon Louise Upston
Associate Minister of Local Government

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Table summarising councils’ progress in demonstrating compliance with trial requirements

<table>
<thead>
<tr>
<th>Key areas covered by trial requirements</th>
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<tbody>
<tr>
<td><strong>1. Project governance and accountability</strong></td>
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<td><em>Have councils demonstrated ownership of an online voting trial and put in place appropriate governance arrangements covering all aspects of a trial?</em></td>
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<tr>
<td>One of the agreed principles underpinning the trial is that of local government accountability. Territorial authorities have overall responsibility for ensuring compliance with requirements, and are required to have a project governance structure in place, and must undertake project assurance activities. Assurance plans must be endorsed by the Government Chief Information Officer (GCIO).</td>
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<td><strong>Overall Comment:</strong> Each council has its own project governance arrangements in place for a trial. The GCIO’s office has reviewed and endorsed assurance plans from each council, indicating the project governance arrangements made are appropriate. As a result, officials are generally comfortable with the level of ownership demonstrated by councils. One risk is a lack of leadership in areas where cooperation is needed between councils (e.g. national communications around a trial). It is planned that the Society of Local Government Managers’ Electoral Working Party will play a role here, although this will be in an advisory capacity. Discussion of project costs and apportionment was not a requirement, but is of interest. In general, it appears regional councils and DHBs have been consulted, but is unclear to what extent they are in agreement about participating in a trial.</td>
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<td><strong>2. Project risk management</strong></td>
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<td><em>Have councils comprehensively identified project risks and put in place appropriate mitigations?</em></td>
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<td>Following from the discussion above, territorial authorities are required to ensure online voting is underpinned by a comprehensive assessment of project risks and ensure there are appropriate mitigations in place. That this has occurred must be independently assessed by an independent assurance provider.</td>
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<td><strong>Overall Comment:</strong> The GCIO office considers that planned assurance activities are appropriate based on their review of the assurance plans.</td>
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<td><strong>3. Compliance with functional requirements</strong></td>
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<td><em>Do the proposed solutions function in accordance with the specified trial design and online voting system design requirements?</em></td>
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<td>Trial design requirements include, for example, that electors must be able to find out if an online vote has been cast in their name and must be made aware of this opportunity. Online voting system design requirements relate to the online voting experience e.g. the online voting system must allow a voter to submit a blank or incomplete vote.</td>
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<td><strong>Overall Comment:</strong> Although there are matters that would need to be confirmed with further information, the functional requirements generally appear to be met to the extent possible (for many requirements it is not possible to demonstrate compliance at this stage, as they are largely future-focused and must be demonstrated as part of the trial itself (regulations would specify these requirements). A key shortcoming is that Requirement 1.9 does not appear to be met in all cases; that specification requires a notification opportunity to be provided to electors separately from the casting of the online vote, so that electors who do not choose to vote online can also opt in to be notified that a vote has been cast in their name. For some councils the notification opportunity appears to be available only after submission of an online vote.</td>
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4. Usability and accessibility of solutions

*Do the proposed solutions meet usability and accessibility requirements?*

The voter interface must be understandable and easy to use, and solutions must support and be tested in any browser or device used by more than one percent of people accessing sites of the territorial authority in question. In terms of accessibility, systems should be designed to maximise opportunities for those with disabilities. Users and/or representative user organisations must be involved in the design of online voting systems and the voter interface must conform at Level AA of WCAG 2.0 (the Government’s web accessibility requirement).

**Overall Comment:** It is unclear whether usability and accessibility requirements are met in full. With respect to both of the systems proposed for use, it has been submitted that the requirements are met. Officials consider sufficient evidence has not yet been provided to support those statements. It is possible that with more time these requirements could be demonstrated to have been met.

5. Systems operation

*Do systems and processes operate in way that both protects and verifies the integrity of local elections?*

Systems operation requirements relate to the inner workings of voting systems. For example, invalid votes must not make it into the electronic ballot box of an online voting system; there must be control procedures for any technical operations associated with the online voting system.

Not only must the right protections be in place, there be must also be the ability to prove at the end of an election that a result is *in fact* accurate. The trial requirements require the systems to be auditable end-to-end and the whole election process to be verifiable end-to-end.

A key principle underpinning the trial is transparency of the online voting system to ensure public confidence the local electoral process. Because of the invisible nature of online voting processes, it is particularly important that the requirements which relate to system operations and auditability are demonstrated to have been met and there is end-to-end verifiability.

**Overall Comment:** While it is possible these requirements are to a significant extent complied with in practice, it is difficult to ascertain this based on reports, as evidence (such as the plans and procedures referred to) has not been provided to support assertions that these requirements are met. Descriptions and evidence of end-to-end verifiability have not been provided. It is unclear whether the concept of end-to-end verifiability has been understood and its importance appreciated.
6. Security of solutions

Are the solutions proposed for use secure?

It must be demonstrated that the online voting systems proposed for use are secure and reliable. This requires solutions to have a good security architecture, and for the security of systems to have been appropriately assessed.

A key aspect of the security requirements is the need to demonstrate compliance with the New Zealand Information Security Manual, applicable ISO standards, and other benchmarks. The Government’s Protective Security Requirements framework\(^6\) must be applied.

A cloud risk assessment is required and the GCIO’s risk assessment tool for cloud-computing is required to be completed (this is a spreadsheet-based information tool that feeds into the risk assessment).

Overall Comment: Security material is highly sensitive and appropriate arrangements need to be in place for its review including limiting access to documents to those who have the relevant expertise to undertake such reviews. The National Cyber Security Centre (NCSC) had some involvement in the preparation of advice on compliance with security requirements. However, an understandably cautious approach to provision of documentation together with time constraints, have not allowed for a detailed review of systems’ security architecture and councils’ plans for security testing. Further work could be carried out, if councils wish to continue work towards a trial in future local elections. The Protective Security team at the NZSIS have reviewed the documentation for compliance with Requirement 2.56 and consider that the protective security expectations have been broadly satisfied and that the Protective Security Requirements framework has been taken seriously. The GCIO’s risk assessment tool for cloud-computing has been completed.

Whole-of-system penetration testing is scheduled to be carried May-June 2016.

7. Interoperability and integration with postal voting system

Are all components of the online voting system interoperable and does the online voting system integrate with postal voting?

Overall Comment: As with many of the other requirements, officials are unable to confirm interoperability requirements are met, due to the lack of information provided, in the case of some councils, because independent testing has not yet been carried out.

\(^6\) The Protective Security Requirements framework includes, as a key component, the New Zealand Information Security Manual, but is broader and also considers physical and personnel security.