

REVIEW OF THE GOVERNMENT ICT STRATEGY

Proposal

1. The purpose of this paper is to seek agreement to a revised Government ICT Strategy.

Executive summary

2. The *Government ICT Strategy and Action Plan to 2017* was launched in June 2013, with the intention that the strategy component would be reviewed after two years to ensure that it remains relevant and incorporates emerging technologies and practices.
3. Since its launch the Strategy has laid the foundation for service and system transformation. Over one hundred agencies are now using common capabilities to outsource their ICT operations, security and privacy practices across the public sector have strengthened, the ICT assurance function and the Chief Government Privacy Officer have been established, implementation of the Protective Security Requirements is under way, and the major agency transformation programmes have progressed. Significant cost savings (both actual and avoided) have also been achieved.
4. The review offers an opportunity to refocus the 'direction of travel' of the Strategy so that the public sector can exploit this foundation and take advantage of several 'game-changing' trends that have emerged since 2013:
 - The accelerated pace of disruptive change generated by cloud services presents an opportunity to change the way the public sector operates, exits cost, and delivers services to citizens and businesses.
 - Increased availability of government-held information and data analytics and predictive modelling have the potential to unlock the value of information to help solve complex problems and generate innovative ideas.
 - Major agency transformation programmes have a critical role in delivering key components of an ICT ecosystem for the public sector that enables the integration of services across multiple agencies and their delivery partners.
 - Partnerships with the private sector are increasingly being used to drive innovation and encourage greater risk taking.
5. Successful exploitation of these trends will support the Better Public Services programme and agency transformation agendas by positioning citizens and businesses at the centre of design and delivery of digital services and ensure that their experiences are

seamless and integrated where appropriate. It will also enable agencies to partner with the industry to deliver innovation and work together to solve complex problems.

6. A revised Strategy has been developed to build on the progress made to-date by exploiting these game-changing trends. The key initiatives in the revised Strategy are:
 - Establishing an 'ICT marketplace' that will enable agencies to access a wider range of public cloud services without the complexity and cost of typical procurement practices.
 - Extending DIA's strategic supplier relationship management framework to facilitate collaboration between the public service and the ICT industry to find innovative solutions to complex and enduring problems.
 - Reorganising the ICT function and ICT workforce so that it is better able to deliver value and innovation to business units and for the system.
 - Defining policies and standards that will enable agencies to share data while maintaining public trust and confidence, using data analytics to better understand complex problems and provide insights to improve policies and services, and prioritising the release of government-held information to inform New Zealanders' decision-making and to drive innovation.
 - Prioritising new investment and agency baseline spending to accelerate the development of integrated digital services for citizens and businesses.
7. The Government Chief Information Officer (GCIO) in partnership with a group of senior public sector leaders is developing a programme of work to implement the revised Strategy. This work programme will prioritise initiatives and define benefits, costs, timeframes, and funding options. The GCIO is also changing the way it works to better support the partnership with senior public sector leaders and the focus of the revised Strategy.
8. Although it is important that the right balance is struck between innovation, security, and privacy, the clear focus will be on innovation and managed risk-taking that will deliver the public services expected by citizens. The GCIO will work in partnership with the security services to ensure the right balance is achieved and it is anticipated that the revised Strategy will be complemented by the forthcoming New Zealand Cyber Security Strategy, which aims to ensure that New Zealand is secure, resilient and prosperous online.
9. I recommend that the GCIO reports back on the programme of work to Cabinet by March 2016 and, thereafter, report on progress through the six-monthly ICT Functional Leadership reporting cycle.

Background

10. The *Government ICT Strategy and Action Plan to 2017* was launched in June 2013, with the intention that it would be refreshed after two years to ensure that it remains relevant and incorporates emerging technologies and practices. The Action Plan was refreshed in 2014, which led to a reduced number of higher-impact actions.

11. In April 2015, the GCIO initiated the planned mid-term review of the Strategy. The review involved an analysis of the major changes in the operating environment that have occurred since the launch of the Strategy in 2013. In parallel, the GCIO engaged with an extensive range of public sector leaders and ICT industry representatives to seek their views on what changes should be made to the Strategy.

What we have achieved

12. When the Strategy was first launched the Better Public Services programme and the Result 9 Roadmap and Result 10 Blueprint were in the early stages of their development. Similarly, the major agency transformation programmes (e.g. those in Inland Revenue, Accident Compensation Corporation, and the Ministry of Social Development) had yet to begin in earnest and the information management initiatives had only just begun to emerge. Several high-profile security and privacy incidents had also occurred, which were symptomatic of generally immature ICT governance, assurance, security, and privacy practices across the public sector.

13. Implementation of the Strategy has, therefore, focused largely on encouraging agencies to reduce costs using common capabilities (e.g. Infrastructure as a Service), establishing the ICT assurance function and the Government Chief Privacy Officer, and improving security and privacy capability, albeit from a low base.

14. The key achievements of the Strategy to-date are:

- Security and privacy practices have been improved across the public sector, including the launch of the Protective Security Requirements (PSR), and this work is ongoing.
- Savings due to avoided costs from agency uptake of common capabilities are approaching \$70 million per annum across more than 100 agencies.
- Significant new common capabilities have been developed (software acquisition strategy and negotiation of a licensing arrangement with Microsoft) or are under development (telecommunications services).
- ICT assurance is becoming embedded within agencies and is moving away from a compliance focus.
- The Government Chief Privacy Officer has been established.
- Investment planning is developing through Treasury's requirement for agencies to prepare long-term investment plans.
- Increased listing of public data in open formats on data.govt.nz and more innovative re-use of public data by the private sector.

15. In addition, considerable work has been undertaken to establish the Data Futures Partnership.

Game-changing trends

16. The review identified three major trends since the 2013 launch of the Strategy that are potentially game-changing opportunities for the way in which the public sector uses information and technology innovations to deliver public services.
17. It has become clear that the pace of disruption generated by emerging technologies continues to accelerate, for example, through the mainstreaming of cloud computing services. The ICT industry is being transformed through the investments of major global suppliers in the provision of cloud services. The widespread use of cloud services, in combination with a number of other technologies such as smart phones, personalisation, algorithm-based decision-making has and will continue to transform entire industries and professions (e.g. transport, tourism, entertainment, and retail). There is potential for similar sweeping change in the public sector. This impacts agency funding (a shift from capital to operating funding) and ICT workforces (agencies may require fewer staff with different skillsets). Cloud computing also presents an opportunity for the public sector to redefine how ICT solves problems and exploits opportunities.
18. There is growing awareness of the opportunity to use government-held information to solve complex problems, generate innovative ideas, and unlock public and private value. Data analytics and predictive modelling have the potential to unlock government-held information and provide new insights that can inform policy decisions and shape service design and delivery, leading to better outcomes for New Zealand. The release of government-held information in open formats will also enable others across society to generate fresh insights and pursue new opportunities that will advance economic growth.
19. The major agency transformation programmes have also progressed and are likely to dominate the public sector's ICT-enabled investment profile. There is, therefore, an opportunity to leverage these programmes to deliver critical components of a government ICT ecosystem that enables the integration of services across multiple agencies and their delivery partners.
20. Partnerships with the private sector are increasingly being used to drive innovation and encourage greater risk taking. There is an opportunity to build on these partnerships with the ICT industry to facilitate greater collaboration with the public service and find innovative solutions to complex and enduring problems.

A focus on system and service transformation

21. Feedback from stakeholders supports the concept of an ICT Strategy for the public sector and the role of the GCIO in leading it. However, there was a clear message that the revised Strategy should focus firmly on enabling the public sector to exploit the game-changing trends and better support the Better Public Services programme and agency transformation agendas.
22. The consensus from stakeholders was that the revised Strategy needs to be concise and adaptive, focus on a small number of high-impact outcomes, and be delivered

collectively by a partnership between the GCIO and senior public sector leaders. The GCIO is adapting the way it works to better support the partnership with agencies and senior public sector leaders and the focus of the revised Strategy.

23. As described in Table 1 below, the revised Strategy is built around five enduring focus areas and high-level outcomes. These focus areas and outcomes are intended to provide a clear 'direction of travel' rather than a detailed programme of work to implement the revised Strategy. The work programme will be developed in partnership between the GCIO and senior public sector leaders once the 'direction of travel' is agreed. The revised Strategy is set out in more detail in **Appendix A**.

Table 1: Revised Strategy

Focus area: Digital services

Outcome: Customers experience seamless, integrated and trusted public services.

- Agencies decide how best to meet the needs of their customers in a cost-effective way given the increasing expectations of customers and the increasingly important role of third-party delivery partners.
- Where appropriate, services are delivered using a common way to federate services (e.g. using an agreed set of life events).

Focus area: Information

Outcome: Information-driven insights are reshaping services and policies, and adding public and private value.

- Agencies agree and implement a common information framework to enable information (business and personal) to be managed, stored, preserved, and shared safely and securely.
- The public sector has a culture and capability that defaults to releasing, sharing, publishing and re-using of information and has earned sufficient public trust and confidence from citizens ('social license') to do this. Government-held information is made widely available to inform decision making, reduce effort and drive innovation.

Focus area: Technology

Outcome: Adoption of information and technology innovations is accelerated and value is being created.

- Agencies have refocused their ICT units on delivering innovation and value by implementing common policies and standards, reshaping their ICT workforces, adopting ICT common capabilities, and consuming cloud services.
- Agencies have adopted innovative approaches to developing customer-focused digital services (e.g. minimum viable products, rapid iteration) designed from the citizen/business need back into government.

Focus area: Investment

Outcome: Investment in innovative digital services is being prioritised and benefits are being realised.

- The funding required to reshape digital services will be largely obtained from a mix of freed-up agency baselines and leveraging the proposed investments in major agency transformation programmes.
- There is a consistent and value-driven approach to evaluating ICT-enabled investment decisions across agencies.

Focus area: Leadership

Outcome: Complex problems are being solved and innovative solutions are being adopted.

- There is a culture and capability within the public sector that exploits information and technology innovations by engaging earlier and more openly with the ICT industry.
- Senior public sector leaders agree how to work collaboratively to prioritise initiatives that support the revised Strategy.

What Ministers will see

24. The key benefits of the revised Strategy are:

- Agencies will adopt a wider range of public cloud services and will do so more quickly and with reduced costs through the development of an 'ICT marketplace' (an online catalogue of services that enables agencies to procure, security certify and accredit, and contract with suppliers, particularly cloud services).
- Agencies will share information and use data analytics to better understand complex problems and provide the insights to improve policies and services.
- Agencies will actively release a wide range of re-useable data for wider use and benefit
- Senior public sector leaders will work collaboratively with global and local suppliers to find solutions to complex problems.
- Agency ICT functions will use common capabilities to outsource their ICT operations and re-organise their ICT workforces to deliver greater value and innovation. At the same time privacy and security capability will continue to improve and will be assessed through annual assurance reporting by agencies.
- Major agency transformation programmes will be designed to support integration of services across multiple agencies and their delivery partners.
- Digital services will be accelerated through prioritisation of new investment and agency baseline spending.

25. Ministers will be able to hold the GCIO and senior public sector leaders to account through an integrated and prioritised work programme that has clear deliverables and milestones, and measurable success criteria and benefits. The GCIO will take a portfolio management approach to monitor the work programme and manage benefits realisation, including how costs are exited from agency baselines.

26. The current Action Plan was refreshed in 2014, which led to a reduced number of higher-impact actions. The Action Plan is consistent with the revised Strategy and will form the basis of the integrated work programme. It is anticipated that this work programme will continue to evolve over time in response to any further changes in the operating environment. The revised Strategy is designed to accommodate such changes as it provides an enduring framework that is expected to remain relevant over a five to ten-year timeframe.

How the strategy will change public sector behaviours

27. The revised Strategy will better mobilise senior public sector leaders because it is built around an enduring set of system outcomes that will benefit citizens. It will be more adaptive to changes in the operating environment and provides a 'direction of travel' that recognises the diversity in scale, maturity, and business models of individual agencies.

28. The revised Strategy will also drive agencies to engage more collaboratively with industry to solve complex and enduring problems and to accelerate the adoption of common capabilities.

29. Better investment decisions will occur because the Strategy is aligned with the investment horizons of major agency transformation programmes and Government priorities. It also addresses system-wide issues, such as recommending prioritisation of initiatives and re-prioritisation of agency baselines, through the partnership between the GCIO and senior public sector leaders.

30. The GCIO will better support agencies to adapt by re-positioning itself as an enabler of agency and sector transformation and as a supporting function in the execution of the revised Strategy through the partnership with senior public sector leaders. This means a change to its operating model and ensuring that it has the necessary capabilities to support the delivery of the revised Strategy.

System challenges and support from Ministers

31. The revised Strategy is a significant opportunity to enable the transformation of public services through greater use of information and technology innovations. However, there are a number of system challenges that require careful management:

- System and agency practices and norms inhibit risk-taking in the context of adopting information and technology innovations, including public cloud services.
- There may be agency-specific legislative barriers, a lack of 'social license', and a perception that privacy is a barrier to sharing information across agencies.
- Agencies are incentivised to deliver agency objectives rather than system outcomes.

32. The partnership between the GCIO and senior public sector leaders is intended to be the primary vehicle to address these system challenges, particularly in relation to the tension between agency and system-wide priorities. It is for this reason that the revised Strategy

is based on a small number of high-impact outcomes that will allow the GCIO and senior public sector leaders to collectively work through these challenges.

33. Ministers can play an important leadership role to help overcome these system challenges by:

- Directing GCSB and GCIO to work together to review the Cabinet policy for cloud computing and remove any barriers that may inhibit the accelerated adoption of cloud computing by agencies and report back by March 2016.
- Directing agency Chief Executives to accelerate their agencies' adoption of public cloud services as a way to drive innovation in line with the 'cloud first' policy [CAB Min (12) 29/8A], while balancing the needed to meet agency business requirements.
- Supporting an increased appetite for managed risk-taking in the context of selecting, implementing, and using information and technology innovations within the context of steadily increasing privacy and security capability across agencies. It will be important to strike the right balance between innovation, security and privacy protection.
- Encouraging agency Chief Executives to prioritise system benefits alongside agency benefits.

Implementation

34. Although the GCIO remains accountable for the revised Strategy, its implementation will be delivered collectively through the partnership between the GCIO and senior public sector leaders. This partnership comprises over fifty senior public sector leaders and includes a leadership group of eleven Chief Executives supported by four working groups focusing on investment, technology, information, and services respectively. The partnership is designed to provide a mechanism for accelerating the pace of ICT-enabled change across the public sector. Its primary role is to oversee the revised Strategy and to progress system-wide issues and opportunities that are needed to deliver the outcomes of the revised Strategy.

35. It is anticipated that accountabilities and decision-making rights for this partnership will be clarified as the work programme is developed. The GCIO will coordinate the activities of the partnership, including development of the work programme and monitoring the delivery of associated initiatives and benefits realisation. Ministers will continue to have oversight of the strategy.

Reporting

36. The GCIO will report back to Cabinet by March 2016 on the programme of work to implement the revised Strategy. Following this initial report back the GCIO will provide regular progress reports through the ICT Functional Leadership six-monthly report.

Next steps

37. The partnership between the GCIO and senior public sector leaders will finalise the work programme and the GCIO will report back on this programme to Cabinet. The report will describe the prioritisation of initiatives, benefits, costs, timeframes, and funding options.

38. In parallel, the GCIO will continue to evolve its operating model so that it better supports public sector leaders and the initiatives that will underpin the revised Strategy.

Consultation

39. The revised Strategy has been endorsed by the Chief Executives of the partnership's leadership group: Ministry of Social Development, Ministry of Justice, Inland Revenue, Ministry of Education, Statistics New Zealand, Land Information New Zealand, Accident Compensation Corporation, Ministry of Defence, Treasury, Ministry of Business, Innovation and Employment, and the Ministry of Health.

40. Feedback on the current Strategy was sought from over fifty senior public sector leaders, including Chief Executives, Chief Information Officers, Chief Financial Officers, and service delivery executives. Feedback was also sought from major technology suppliers, major consultancy services firms, and industry lobby groups. Early drafts of the revised Strategy were socialised with a subset of these stakeholders and their feedback was incorporated into successive iterations.

41. The following agencies were consulted on this paper: Ministry of Social Development, Ministry of Health, Ministry of Justice, Ministry for Primary Industries, Inland Revenue, New Zealand Transport Agency, Ministry of Education, New Zealand Police, Statistics New Zealand, Government Communications Security Bureau, Land Information New Zealand, Department of Conservation, Accident Compensation Corporation; Ministry of Defence, Treasury, Ministry of Business, Innovation and Employment, State Services Commission, Child Youth and Families, the Department of Corrections, Customs, Ministry of Transport, Ministry for Women's Affairs, Ministry of Foreign Affairs and Trade, Ministry for the Environment, Ministry for Culture and Heritage, Tertiary Education Commission, Serious Fraud Office, Te Puni Kokiri. The Department of the Prime Minister and Cabinet and the Privacy Commissioner were informed.

Financial implications

42. There are no immediate financial implications. However, as specific initiatives from the work programme are developed they may need to seek funding and agencies may also need to seek funding to support their transition to common capabilities.

Human Rights, Legislative Implications, and Regulatory Impact Analysis

43. This paper has no human right issues, legislative, or regulatory implications.

Publicity

44. There is considerable interest in the future direction of the ICT Strategy with external stakeholders, particularly the ICT industry. For this reason I anticipate that there will be a public launch of the revised Strategy. At this launch I propose to proactively release this paper, subject to consideration of any deletion that would be justified under the Official Information Act 1982 (CO Notice (09) 5).

Recommendations

45. The Minister of Internal Affairs recommends that the Committee:

1. **note** that good progress has been made in delivering the Government ICT Strategy and Action Plan to 2017;
2. **note** that the Government Chief Information Officer has reviewed the Strategy in consultation with a wide range of agency and industry stakeholders;
3. **note** that several 'game-changing' trends have emerged since the 2013 launch of the Strategy:
 - the impact of the accelerated pace of change in the global ICT industry;
 - increased availability of government-held information to better understand complex problems and provide insights to improve policies and services; and
 - the potential to leverage major agency transformation programmes;
4. **note** that a revised Strategy has been developed to exploit these game-changing trends by focusing on the following outcomes:
 - customer experiences of digital public services are accessible, seamless and integrated;
 - information-driven insights are reshaping services and policies, and adding public and private value;
 - adoption of information and technology innovations is accelerated and value is being created;
 - investment in innovative digital services is being prioritised and benefits are being realised; and
 - complex problems are being solved and innovative solutions are being adopted;
5. **note** that the revised Strategy is designed to be enduring and accommodate emerging trends in the operating environment over a five to ten-year timeframe;
6. **agree** the revised Strategy as described in **Appendix A**;
7. **note** that the increasing main-streaming of cloud services by the ICT Industry has the potential to support sweeping change across the public sector;
8. **direct** the Government Communications Security Bureau and the GCIO to work together to review the Cabinet policy for cloud computing and remove any barriers that may inhibit the accelerated adoption of cloud computing by agencies and report back by March 2016;
9. **note** that the GCIO will continue work in partnership with senior public sector leaders to deliver the revised Strategy and address the system challenges that are inhibiting progress;
10. **agree** to support the GCIO and senior public sector leaders by:
 - directing Chief Executives to work with the GCIO to consider how best they can accelerate their agencies' adoption of public cloud services as a way to drive innovation in line with the 'cloud first' policy, while balancing the need to meet agency business requirements;

- supporting an increased appetite for managed risk-taking in the context of selecting, implementing, and using information and technology innovations; and
 - encouraging agency Chief Executives to prioritise system benefits alongside agency benefits;
11. **note** that the revised Strategy is built around an enduring set of outcomes and is intended to provide an adaptive and flexible framework, which can respond quickly to changes in the operating environment, and is expected to remain relevant over a five to ten-year timeframe;
 12. **agree** to rescind the requirement for the GCIO to review the Action Plan on a yearly basis;
 13. **agree** that the GCIO may, after consultation with senior public sector leaders, report to Ministers after two years if there is a need to amend the revised Strategy;
 14. **direct** the GCIO to work with senior public sector leaders to develop a prioritised and integrated work programme to deliver the Strategy; and
 15. **direct** the GCIO to report back to Cabinet by March 2016 on the prioritised and integrated programme of work and subsequently report on its progress through the six-monthly ICT Functional Leadership reporting cycle.

Hon Peter Dunne

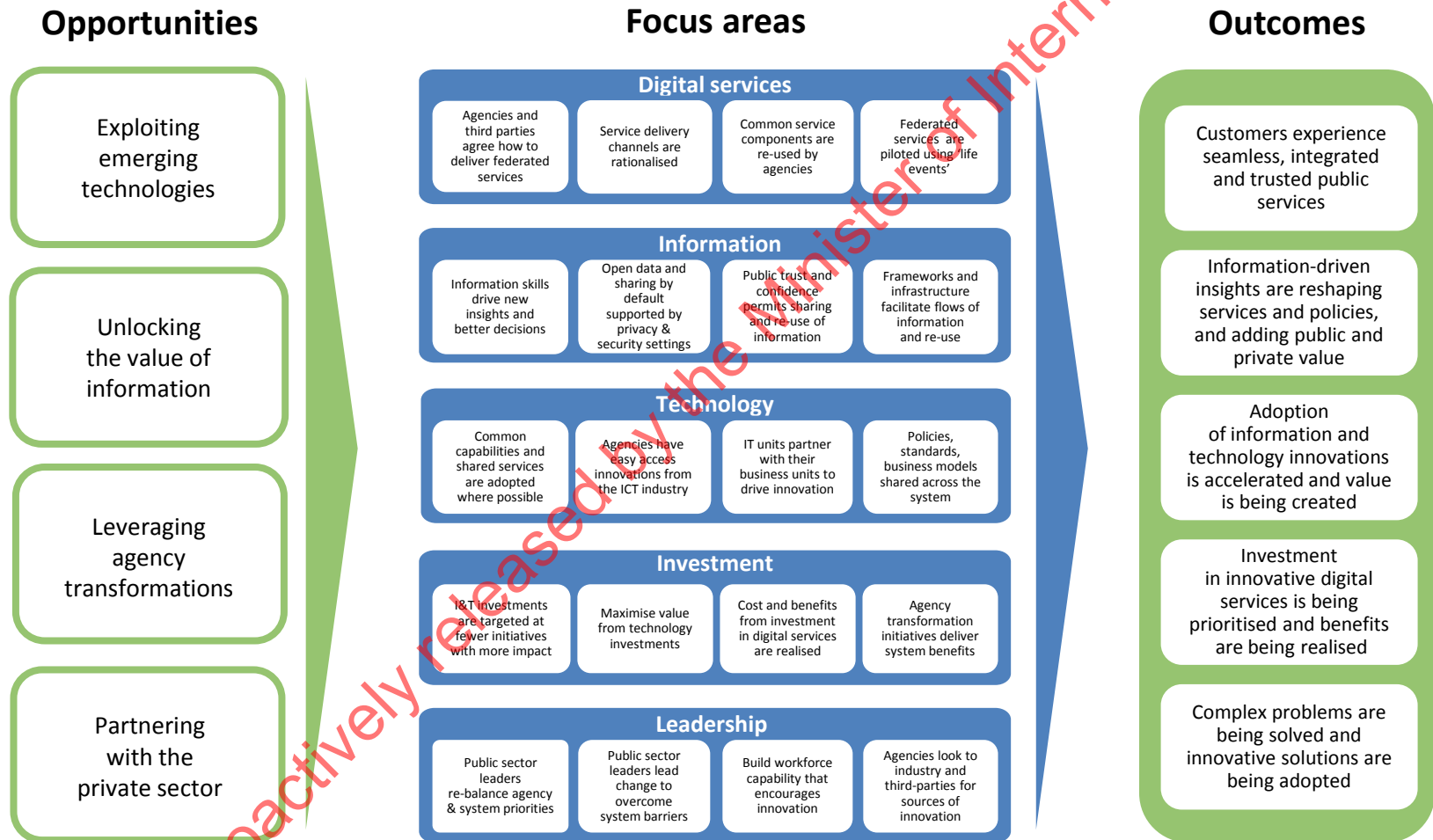
Minister of Internal Affairs

Date:

Appendix A: Government ICT Strategy and accompanying narrative

Revised ICT Strategy

Enabling the public sector to exploit ICT-enabled opportunities



Narrative for the Government ICT Strategy

1. This paper explains the Government ICT Strategy's background and key drivers, and outlines the proposed approach for implementing it.

Introduction

2. The Government ICT Strategy and Action Plan to 2017 was launched in June 2013, with the intention that the strategy be refreshed after two years to ensure that it remains relevant and incorporates emerging technologies and practices. In April 2015, the Government Chief Information Officer (GCIO) initiated a mid-term review of the strategy component.
3. The review involved an analysis to understand the major changes that have occurred since the strategy's launch. In parallel, the GCIO engaged with an extensive range of public sector leaders and ICT industry representatives, to seek their views on what changes should be made to the strategy. After detailed consideration, the GCIO decided that the strategy (its approach and content) needed to be substantively revised. The case for change is explained below.

Key drivers for change

Government's priorities

4. The Government wants the public sector to transform the way it serves New Zealanders. This involves public servants working across agencies, and more widely – with the private sector and non-government organisations, for instance – to solve complex and long-standing problems, such as reducing long-term welfare dependency. It also involves public servants delivering connected or integrated services to citizens quickly and effectively. To do this, public servants will have to work in ways that are agile and flexible (and potentially disruptive), and be comfortable dealing with complexity and uncertainty. These ambitions are, in part, set out in the Better Public Services (BPS) programme and its ten result areas.
5. Information and technology is integral to this transformation agenda. There is a need to unlock the value of government-held information, and harness innovative technologies, to transform services and get results. The public sector must rethink its approach to the way it acquires and uses information and technology, as traditional methods do not support the nature, thrust and scale of the Government's ambitions. There is an imperative to act quickly, while being financially prudent and effectively managing risks.

Maturing environment

6. When the strategy was developed in 2013, major agency transformation programmes and the BPS Result Area 9 roadmap and Result Area 10 blueprint were in early stages of development. Several security and privacy incidents had occurred, which were symptomatic of generally immature ICT assurance, security and privacy practices. The response to these incidents, which is embodied in the current strategy, included measures to lift standards across the public sector.

7. Since the strategy was introduced the environment has substantially changed:
- Results 9 and 10 have matured and are changing how people interact with government.
 - Major agency transformation programmes have progressed, and are shaping the direction of ICT investment.
 - The ICT assurance function has been established and is becoming embedded, the standard of security and privacy practices has stabilised, the role of Government Chief Privacy Officer has been established, and the Protective Security Requirements are being implemented.
 - Investment planning is developing through Treasury's requirement for agencies to prepare long-term investment plans.
 - There is growing awareness of the need for government-held information to be shared to solve complex problems, generate innovative ideas, and unlock public and private value.
8. But it has also become clear that major external trends are impacting the way the public sector exploits ICT. For example, the pace of disruption in the ICT industry continues to accelerate through the mainstreaming of cloud computing services and consequential impacts on ICT investments and workforces. The public sector's ability to secure favourable pricing by aggregating its collective buying power has waned as the industry becomes increasingly global.
9. There is also an emphasis on releasing value from public information and data. Public servants have to think and act differently - treating information and data as shared assets, partnering with others to develop new insights, thus enabling a step change in advice and services, and sharing information and data for use and innovation by people, communities and businesses.

Themes from stakeholder engagement

10. As part of the strategy review, the GCIO engaged with a broad range of stakeholders, including senior public sector leaders (chief executives, chief information officers, chief financial officers, and service delivery executives), and representatives of major industry suppliers and lobby groups. Several important themes emerged from these discussions:
- The ICT Senior Leadership Group (SLG) and its working groups should own and drive the strategy.
 - The strategy's primary audience should be senior public sector leaders (other stakeholders should include representatives from the ICT industry and service delivery partners). It should help leaders to mobilise and exploit new opportunities as they arise.
 - The strategy must be simple, concise, adaptive, and focused on outcomes. It should have fewer actions, and these should be closely tied to the Government's priorities and major agency transformation programmes.
 - The GCIO needs to adapt its operating model to support the new approach.

Development of the strategy

11. The four focus areas of the original strategy remain relevant and are embedded in the revised strategy's outcomes and objectives. The strategy builds on substantial progress already achieved, but shifts the emphasis to focus on embedding transformation in several key areas through innovative use of information and technology. In doing so, it takes account of significant changes in the operating environment, and the emerging thinking of public and private sector thought leaders, as captured in the stakeholder engagement process.

Approach

12. The strategy has been designed with the following principles in mind:

- Impact: the strategy features a handful of objectives designed to deliver system impacts.
- Outcomes: the strategy sets high-level goals but does not prescribe how to achieve them.
- Adaptation: the combination of concise strategy and agile governance/delivery apparatus (the ICT SLG and working groups) will enable quick responses to take advantage of emerging opportunities and risks, within parameters set by Ministers.

Collective accountability

13. The strategy will be led and revised by a strategic partnership between the GCIO and a range of chief executives. Responsibility for delivering the strategy rests with the ICT SLG's four working groups. The GCIO will adapt its operating model to support the strategy. It will support the working groups to coordinate their activities, deliver their work programmes, and monitor and report on progress. Ministers will receive regular progress reports.

Enduring opportunities leading to outcomes

14. The strategy is organised on four high-level and enduring opportunities:

- Exploiting emerging technologies.
- Unlocking the value of information.
- Leveraging agency transformations.
- Partnering with the private sector.

15. Five focus areas have been identified: digital services; information; technology; investment; and leadership. For each focus area, the strategy identifies a number of high impact initiatives. From this, five key outcomes will emerge. The five focus areas and their corresponding outcomes are explained below.

Digital services: Customers experience seamless, integrated and trusted public services

16. People are using personal digital devices in increasingly sophisticated ways. In everyday activities such as banking and shopping, customers expect that goods and services are integrated, easily accessible through any digital device, and quickly available. The same applies to government. Increasingly, people expect to 'consume' public services in the same way, and to the same standard, as when transacting with a bank or an Internet-based retailer.
17. In the past, the standalone government agency has operated as the primary delivery vehicle for services. Information and technology infrastructures reflected this silo approach, with agencies running their own systems, delivering their own services, and when needed trying to connect these systems with others. Not all services need to be integrated, but for those that do, a new mindset and approach to information and technology is necessary.
18. Agencies and third parties will have to agree on how to deliver federated services and rationalise service delivery channels. This might, for instance, involve defining a common target operating model and architecture for federated services, which would enable progress without impeding gains already made in agency improvement and transformation programmes. In parallel, system barriers to integration, such as legislation, mandate, investment decision-making processes, and agency/vote prioritisation, will need to be addressed.

Information: Information-driven insights are reshaping services and policies, and adding public and private value

19. The public sector's ability to understand customers (their preferences, behaviours, and needs) and derive deep insights into complex problems by analysing large quantities of information is gradually growing. But considerable information remains locked within agency silos, and cannot be easily accessed, combined, analysed and used.
20. So far, the emphasis has been on establishing rules, standards, architecture and legislation to facilitate data sharing. The strategy should expand and accelerate this work: architectures should support the flow of information across service, not impede it. It should encourage agencies to connect existing information and technology infrastructures for information sharing and enhanced analysis. This will test the system's ability to get quick results with what it has, rather than seeking to invest in costly new infrastructure.
21. Investment and capability building in new skills will be critical, as will a change in approach to the management, use and re-use of information and data. Secure and private use and re-use of data should be the default position, including (with appropriate safeguards) third parties being able to access data and information and use it to create new service, insights and value.

Technology: Adoption of information and technology innovations is accelerated and value is being created

22. Until fairly recently, government agencies designed, built and operated their own technology solutions and stored their own information. Such an approach is no longer necessary or desirable as non-core IT capabilities can be outsourced to the private sector, allowing ICT units to partner with business units to deliver innovation and value. The strategy emphasises the adoption common capabilities and shared services, and sharing and reusing policies, standards

and business models. Mechanisms will be established to allow agencies to procure innovative ICT services easily, efficiently and securely.

23. The mission, structure and staffing of ICT units and service delivery workforces will need to change. Just as Government needs to manage the economic and social consequences of disruptive technological change, e.g., workforce automation, public sector leaders must carefully plan and manage transitions to new ways of integrating and interacting with technology.
24. The way agencies develop services will also need to change. This will require agencies adopt innovative approaches to developing services, such as focusing on minimum viable products that are iterated rapidly.

Investment: Investment in innovative digital services is being prioritised and benefits are being realised

25. When managing public spending, the Government looks to get better results from existing spending, while investing wisely in new services that will make a difference. In the context of investment in information and technology, there is an imperative to maximise the impact of existing spending, such as agency modernisation initiatives, for the benefit of the system as a whole. Continued pressure on agency baselines will necessitate a reprioritisation of spending towards digital services.
26. Proposals for new investment will need to demonstrate that they are necessary and affordable. They must align with the Government's ICT objectives (as set out in the strategy), and specify what the impact will be in terms of the Government's priorities.

Leadership: Complex problems are being solved and innovative solutions are being adopted

27. The pace of technology-led change and innovation is accelerating, in particular as cloud computing is mainstreamed, and as it becomes possible to analyse large quantities of data and derive deep insights about complex problems and customer behaviour and preferences. For the public sector, utilising innovation, and developing complementary skills, mindsets and structures, is essential for delivering the Government's transformation agenda. But senior public sector leaders have limited visibility of the potential of information and technology, and of the types of innovations that are, or will soon be, available.
28. The strategy will empower them to understand and exploit innovative capabilities, and to build a collective understanding of emerging trends and developments. More broadly, it will enable public sector leaders to work collaboratively to overcome system barriers. A workforce culture that encourages innovation, and a willingness to experiment and rapidly adopt new technologies, must be fostered. Leaders should look to other agencies and public entities, in New Zealand and overseas, to industry, and to non-government organisations (NGOs) as sources of innovation in ICT and service delivery.