

## Introduction

- 1.1 Information and communications technologies (ICT) are widely regarded as the means by which people and organisations will increasingly deal with each other in the future.
- 1.2 The Government is taking a leading part in the adoption of ICT in the form of its E-government Strategy<sup>1</sup> and associated projects being managed by the State Services Commission's (SSC) E-government Unit. In addition:
  - the Ministry of Economic Development (MED) is implementing an e-commerce strategy for the business sector;
  - the Ministry of Education is implementing an ICT strategy for schools;
  - the Ministry of Health is implementing the Health Information and Technology Plan developed in consultation with District Health Boards and other participants in the health sector;
  - the Department of Labour is working on a draft strategy for community access to ICT; and
  - Local Government New Zealand is developing a strategy for adoption of ICT in local government.
- 1.3 The extent of this public sector activity in promoting wider adoption of ICT is illustrated in the diagram in Figure 1.1 on page 12. Collectively, these strategies and the means of implementing them are referred to as "e-initiatives".

## What Is the Purpose of this Article?

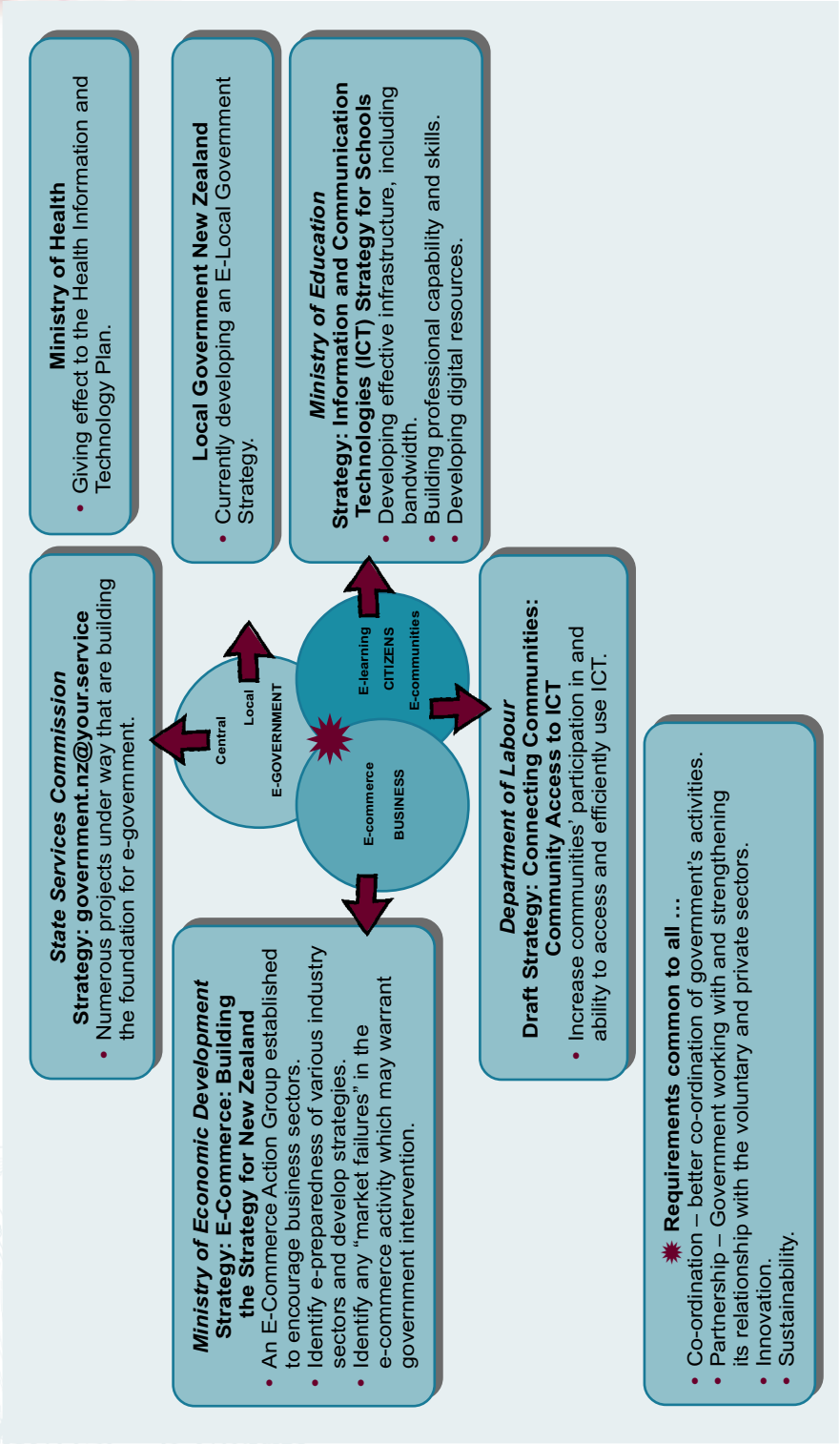
- 1.4 This article is intended to inform Parliament about the current status of e-initiatives and identify key issues that need to be addressed. We intend to keep Parliament informed as the developments proceed.

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1 *New Zealand E-government Strategy* – December 2001.

PUBLIC SECTOR PROGRESS TOWARDS AN E-SOCIETY

Figure 1.1  
Public Sector Initiatives Towards an E-society



## Whom Did We Consult?

- 1.5 In preparing this article we spoke with:
- Staff from the SSC, the Department of Labour, the Department of the Prime Minister and Cabinet, the Ministry of Education, the MED, the Ministry of Health, the Ministry of Social Development, and Local Government New Zealand.
  - Dr Russ Ballard (Chief Executive of Land Information New Zealand) who prepared a paper *Leadership, Governance and the Achievement of E-Government Objectives* after completing an overseas study tour in May-June 2001; Dame Margaret Bazley (former CEO of the Department of Social Welfare); and Kerry McDonald (Executive Director of Comalco New Zealand Limited and Chairman of the State Sector Standards Board). All are, or have been, members of the E-Government Advisory Board.

## Our Overall Conclusions

- 1.6 Progress towards establishing the foundation and infrastructure for e-government is reasonably well advanced. Public sector organisations have embraced basic web site technology to make information available on the Internet. A number have also begun to add more advanced features so that the private business sector and the public can interact with them using the Internet. A few have developed features to enable transactions to be completed using the Internet.

*There is a need for more effective strategic co-ordination across the various e-initiatives*

- 1.7 Overseas studies suggest that countries which are successful in the delivery of mature on-line government services have a strategic framework that aligns the three components – Government and Citizens, Government and Business, and Government and Employees – and underpins their government action plan.

1.8 In New Zealand, the structure designed to give effect to the development and implementation of e-initiatives places the responsibility for addressing the issues with the three different lead departments as described below. While we saw evidence of co-ordination between different e-initiatives, an overall strategic framework is lacking.

1.9 The three lead departments are:

- The SSC, which is running 15 projects (described in Annex 1 on pages 37-39) that are collectively designed to provide a capability and operating framework for e-government. Most of these projects are technical in nature and, broadly, good progress is being made.
- The MED, which is focusing on ways to advance private sector business use of the Internet. For this to happen, the public and businesses need sufficiently high-speed access to the Internet. In this country, making consistently available in all parts of the country the technological infrastructure (known as bandwidth<sup>2</sup>) is not straightforward. In some areas the necessary infrastructure is not yet in place.
- The Department of Labour, which has been given the role of addressing the “digital divide” – the term used to describe the gap between those who have optimal access to ICT and the skills to make best use of them, and those who do not.

1.10 In addition, the Ministry of Education is proceeding with initiatives to use ICT to:

- improve learning outcomes for students;
- improve the administrative efficiency and effectiveness of educational administration; and
- develop partnerships with communities to enhance access to learning through ICT.

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<sup>2</sup> Bandwidth is the term that is used to describe the data-transfer capacity of a particular communications technology – data can travel by wire (requiring copper or fibre cables) or wireless (requiring dedicated radio frequencies from land-based radio towers or satellites).

- 1.11 Schools have an important role in increasing awareness and use of the Internet. They are being asked to invest in the required technology and capability (e.g. teacher training). As a discrete and relatively receptive sector, schools are making overall good progress in meeting the educational objectives of the e-government programme.
- 1.12 The Ministry of Health also is proceeding with a comprehensive plan for the application of ICT in the health sector to data collection, storage, and access. The plan aims to:
- develop electronic health records;
  - reduce general practitioner compliance costs;
  - increase efficiencies in administrative processes; and
  - improve outcomes for patients through better effectiveness in health care and disability service delivery.

*Crown entities need to make no less a commitment to e-initiatives than the core public sector*

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- 1.13 Crown entities deliver a range of important services to citizens, such as education and health care. Some have close relationships with the business community. The commitment of Crown entities to the Government's objectives is vital to the credibility of the government portal<sup>3</sup> and implementation of e-initiatives generally.
- 1.14 However, most Crown entities are governed by their own legislation and have varied (and, in some cases, distant) relationships with the Government. Departments with responsibility for monitoring their performance have varying levels of control over Crown entity strategy. The central agencies also have limited powers in this respect. The Government needs assurance that Crown entities are adopting its electronic infrastructure and standards and are fully committed to its vision for the development and use of ICT.

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<sup>3</sup> The government portal is a single web site giving structured access to the web sites of government agencies.

- 1.15 The difficulties of achieving cohesion and consistency in the wider state sector are well illustrated in the health sector, where the main impetus for progress currently resides largely with the 21 separate District Health Boards.

*Some local authorities have undertaken promising initiatives, but overall progress in local government has been patchy and fragmented*

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- 1.16 The local government sector consists of 86 regional, city, and district councils serving differing communities with a variety of priorities and expectations. Because of these differences, the sector needs a vigorous sponsor with a clear mandate to promote best practice across the sector.
- 1.17 The establishment of New Zealand Local Government Online<sup>4</sup> has been a positive step to encourage local authorities to develop web sites and a local authority portal. Individual local authorities are under no obligation to comply with standards developed for government departments or recommended by New Zealand Local Government Online. In these circumstances, some uneven development of e-initiatives is inevitable.
- 1.18 Local Government New Zealand has recently assumed a broader role in the promotion, encouragement, and education of e-local government, and a team<sup>5</sup> has been established to develop an ICT strategy for the local government sector.

*Bandwidth and the digital divide are difficult issues to resolve.*

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- 1.19 Bandwidth and digital divide both restrict access to and use of the Internet. Both are potential obstacles to the Government's vision of enabling people and businesses to gain access to government information and services

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4 New Zealand Local Government Online was established in September 1998 as a joint initiative of the Society of Local Government Managers and the Association of Local Government Information Management.

5 The team comprises participants from Local Government New Zealand in conjunction with New Zealand Local Government Online, the Society of Local Government Managers, the Association of Local Government Information Management, the SSC's E-government Unit and the MED.

electronically. Web guidelines produced by the SSC's E-government Unit are one means of dealing with this problem.

- 1.20 Though critically interdependent – progress on the digital divide depends on progress on bandwidth access – they are the responsibility of not one but two departments: respectively, the Department of Labour and the MED. Resolution of the two issues will need effective collaboration between departments.
- 1.21 The May 2002 Budget included funding through the Education and Economic Development Ministries to provide high-speed Internet access to provincial and rural communities including schools. The country will be split into 10 to 20 regions and contracts will be awarded to suppliers on the basis of a tender by November 2002. A project director and project team have been appointed.

## The Greatest Challenges Lie Ahead

- 1.22 The development of technological infrastructure and standards is the most straightforward phase. The full benefits of e-initiatives will not be achieved until the delivery of government services is transformed. This phase may require organisational and cultural changes that will be much harder to achieve than the technology changes that have already been made.

*A greater appreciation is required of the need to co-operate to make timely progress*

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- 1.23 The following aspects of New Zealand's current approach to e-initiatives need to be reviewed, reflecting overseas experience.
  - Responsibility for managing the development and implementation of e-initiatives – should this be more strongly focused in a single agency?
  - Enforcement of key requirements for successful e-government, such as common data standards and consistent infrastructure investment – do these need to be made mandatory?

- Resourcing of the development and implementation of e-government – is there a need for a clearer and more transparent resourcing strategy? (Otherwise, any reluctant key players may cite lack of resources as an excuse for not making progress.)
- Priority assigned to e-government in different public sector organisations – does the entire public sector need stronger incentives to translate the Government's objectives into action?
- Limited government control over critical parts of the programme (such as bandwidth) may prove to be an enduring obstacle to making progress – will further interventions and/or additional incentives be needed to overcome these obstacles?
- Use of current technology – do the Government and government agencies need to do more to ensure that the greatest value is being achieved from the current infrastructure and from opportunities for integrated and shared services?
- Healthcare is a key service for which there are significant unresolved issues in relation to health information and technology. These issues pose similar challenges in other countries' health jurisdictions. Do the Ministry of Health and District Health Boards need to give these issues higher priority?

1.24 Once further progress is made, there may be significant implications for the way that government in New Zealand is organised to accommodate the changes that e-initiatives may bring about. A Change Implementation Advisory Group and Implementation Steering Group have been established to implement a package of initiatives to address the issues raised in the *Report of the Advisory Group on the Review of the Centre*.<sup>6</sup> The initiatives are looking at ways of improving the public management system – improving the interface of Government with citizens, particularly in relation to issues that cut across multiple agencies, and better co-ordinating or integrating service delivery to reduce costs and clarify accountabilities.

<sup>6</sup> This report was prepared by a Ministerial Advisory Group convened by the State Services Commissioner and was presented to the Ministers of State Services and Finance in November 2001.



- 1.25 The remainder of this article:
- briefly outlines the arrangements for strategic management and co-ordination of the Government contribution to e-initiatives; and
  - describes in more detail what the public sector has done to promote wider adoption of ICT, as illustrated in the diagram in Figure 1.1 on page 12.

## Strategic Management

### At Cabinet Level...

- 1.26 As some issues (e.g. the digital divide and bandwidth) cross boundaries, an informal Ministerial e-team was established in an attempt to co-ordinate the work being done by different government departments. The team comprises the five Ministers who have a direct interest in e-initiatives through the involvement of the SSC, the MED, and the Department of Labour.<sup>7</sup> The team meets as needed.
- 1.27 In addition, by the nature of the topic, the Minister of Research Science and Technology also has an interest in e-initiatives.

### At Agency Level...

- 1.28 The following three groups have been established to discuss e-government initiatives and help promote support for these initiatives more widely across government:
- The E-Government Advisory Board – which is made up of representatives from central government, local government, and the private sector. The members act as advocates of e-initiatives among government

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<sup>7</sup> The SSC reports to the Minister of State Services who is also the Minister of Education. On e-business matters, the MED reports to the Minister of Commerce who is also Minister of Communication and Minister of Information Technology; and to the Minister for Economic Development who is also the Minister for Industry and Regional Development. The Labour Market Policy Group of the Department of Labour reports to the Minister of Social Services and Employment.

organisations and are responsible for advising the State Services Commissioner on key aspects of the SSC's e-government programme.

- The Agency Leaders Group – which is used to promote communication between government agencies<sup>8</sup> and the SSC's E-government Unit. Its members are second-tier staff involved in the core business of their agency with the authority to engage their Chief Executives in e-government proposals, and have access and authority within their agency to ensure that appropriate staff are engaged in consultation.
- The Chief Information Officers Forum – which allows IT staff an opportunity to have input into the e-government programme. This forum is focused on implementing technologies to enable business transformation, encourage inter-operability between agencies, and encourage sharing or building on technical infrastructure across government.

1.29 The Department of the Prime Minister and Cabinet (DPMC) has a role of co-ordinating issues that affect the whole of government. It reviews e-initiative papers and convenes an officials' group to discuss e-initiatives. The group meets informally as required and its members differ according to the issue being discussed. The core representatives are the MED, Industry New Zealand (as applicable), the Ministry of Education, the Treasury, and the SSC.

1.30 In the following paragraphs we address each of the five areas of e-initiatives illustrated in Figure 1.1 on page 12.

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<sup>8</sup> The group also includes leaders from District Health Boards, Crown Research Institutes and the Tertiary Institutions Agency. Although they currently are not directly involved, their inclusion enables them to become familiar with the programme. It also enables them to pick up the standards and policies that have been developed for the whole of government, so that they will be able to more easily align with e-government objectives in the future.

## E-government

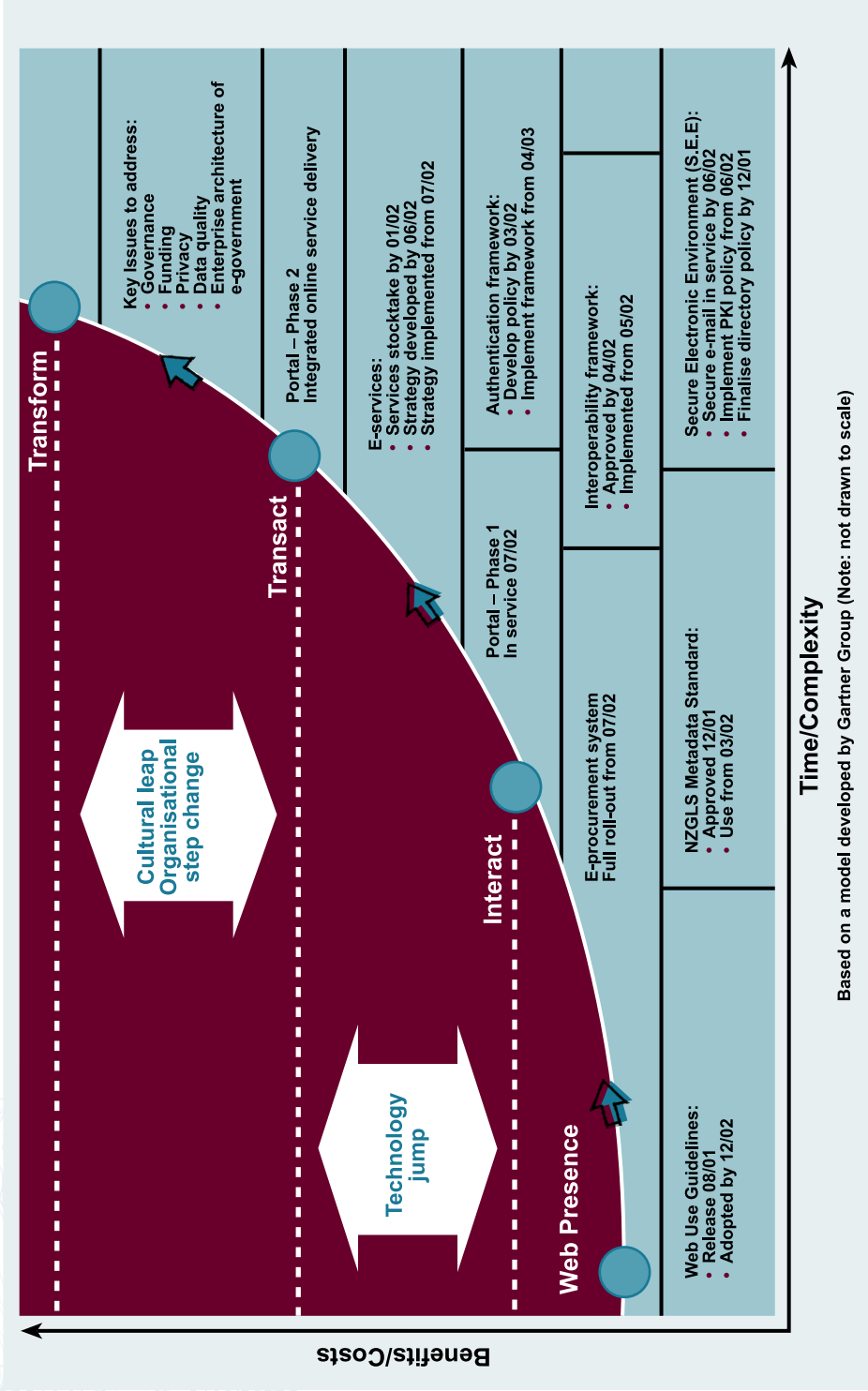
### What Is E-government?

- 1.31 World-wide, governments are reassessing how they are able to use ICT to:
- provide people with more convenient access to government information and services;
  - improve the quality of the services; and
  - provide greater opportunities to participate in democratic institutions and processes.
- 1.32 The use of ICT for communication and the conduct of dealings between the government and the public is commonly referred to as “e-government”.
- 1.33 The Government’s *E-government Strategy* notes that e-government will improve the quality of government, and people’s participation in it, in the following four ways:
- it will be easier for people to have their say in government;
  - people will get better services from government organisations;
  - people will receive more integrated services because different government organisations will be able to communicate more effectively with each other; and
  - people will be better informed because they can get up-to-date and comprehensive information about government laws, regulations, policies and services.

### The Size of the Task

- 1.34 Transformation to e-government is a long-term process. Many countries, including New Zealand, are planning on the basis of a four-phase model – as illustrated in Figure 1.2 on page 22 (a diagram extracted from the *New Zealand E-government Strategy* – December 2001 – Update).

Figure 1.2  
Model of Development of E-government



Time/Complexity

Based on a model developed by Gartner Group (Note: not drawn to scale)

- 1.35 **Phase one: a web presence** – provides a web site to deliver basic information. Most public sector organisations moved beyond this phase some time ago.
- 1.36 **Phase two: interact** – provides a more capable web site giving on-line access to critical information, such as downloadable forms and e-mail contact to resolve queries. Many public sector organisations have this capability.
- 1.37 **Phase three: transact** – supports e-procurement (on-line purchasing) and provides self-service applications on the web site so that people can conduct business on-line. Some public sector organisations are in this phase with some of their services. Many of the foundation e-government projects are designed to support advancement into this phase.
- 1.38 **Phase four: transform** – redefines the delivery of government services and potentially the operation of government itself. The identity of public sector organisations matters less as information and services are accessed through a single point on the Internet. E-government reshapes the relationships between government and individuals, and government and business. This is the long-term goal of the *E-government Strategy* – the portal project currently under way (see paragraphs 1.44 to 1.48 on pages 24-25) is the starting point.
- 1.39 The three broad target groups – government, business, and citizens – will need to undergo significant transformation (changes to the way they run their operations and their lives) to enable the development of e-government.

## Operational-level Key Players

- 1.40 The E-government Unit of the SSC has the central co-ordinating role in developing some major foundation-building projects as a basis for other agencies to deliver e-government in a coherent, cost-effective, and rapid fashion – using a set of common tools and standards, and sector-wide infrastructures.

- 1.41 The programme of work required to establish the foundations to transform government into e-government is set out in the *E-government Strategy* [government.nz@your.service](http://government.nz@your.service).
- 1.42 The mission of the strategy is that:
- ... by 2004 the Internet will be the dominant means of enabling ready access to government information, services and processes.*
- 1.43 The strategy currently includes 15 key initiatives – these initiatives and the progress made by the SSC (in conjunction with staff from other agencies) are outlined in Annex 1 on pages 37-39.
- 1.44 One of the key initiatives is the establishment of a government portal – which is a single web site allowing users to search for government services available from government agencies. The portal will enable members of the public to use a single Internet address to find on-line and off-line government information and services without needing to know which government agencies have the information or deliver the services, and therefore which web site they need to go to.
- 1.45 A catalogue of 1000 services (including 150 local government services) across 65 organisations has been collected for identification on the portal site. The portal is expected to be operational by July 2002.
- 1.46 The portal is likely to raise public expectations in relation to both on-line and off line access.
- 1.47 The portal will take the public to the service provided by the relevant entity, with each entity being responsible for providing appropriate access, information and services. Establishing the portal is likely to reveal starkly the current uneven commitment by government agencies to the electronic provision of information and services, and prompt users to compare the quality of web sites, information, and service delivery.
- 1.48 The portal is also likely to promote more economical ways to deliver services, which may challenge current practices. At present, members of the public might, in some cases (as in applying for a student loan), have to deal with more than

one government agency in order to carry out a single transaction. The portal is likely to draw attention to the relative efficiency of different transactions, and may provide impetus for consideration of future structural options for the machinery of government.

### *Crown Entities*

- 1.49 Citizens will judge the success of the Government's portal by the extent to which they can gain ready access to services they need through the Internet. Having been directed to relevant agencies they will expect convenient and responsive service on-line or through traditional service channels.
- 1.50 Crown entities deliver a range of important services to citizens, such as education and health care. Some Crown entities (such as those with regulatory powers, e.g. the Commerce Commission) have close relationships with the business community. The commitment of Crown entities to the Government's e-vision and objectives is vital to the credibility of the portal and implementation of the Government's e-initiatives generally.
- 1.51 However, most Crown entities are governed by their own legislation, and have varied (and in some cases distant) relationships with the Government. Departments with responsibility for monitoring their performance have varying levels of control over Crown entity strategy. The central agencies have very limited oversight, and often no clear mandate to impose standards and expectations in respect of information technology and service delivery. The central agencies confirmed in their discussions with us their limited powers in this respect.
- 1.52 The adoption of metadata standards illustrates the difficulties in ensuring widespread compliance in such an environment. These standards, drawn up by the SSC, are designed to ensure that users have ready access to information held on the web sites of public entities, and can navigate through such sites with ease. Departments, which make up the core government sector, must comply with this set of standards; the wider state sector has been

strongly encouraged to do so. However, none of the agencies with responsibility for management of the e-government programme has a plan to monitor whether entities in the wider public sector have adopted these and other standards in relation to electronic infrastructure.

- 1.53 The difficulties of achieving cohesion and consistency in the wider state sector – in the absence of clear mandates, incentives and leadership – are well illustrated in the health sector.

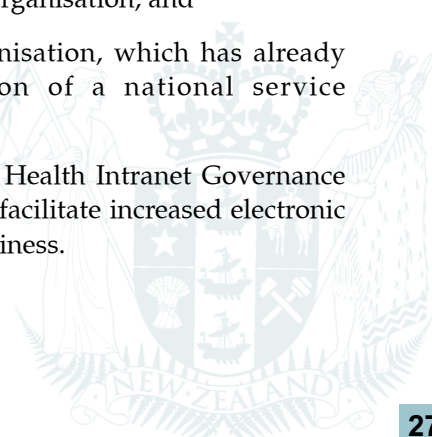
### *Information Needs and Responses in the Health Sector*

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- 1.54 The health sector comprises a complex collection of participants that brings unique challenges in attempting to implement ICT in a coherent and equitable manner. Delivery of health services involves 21 District Health Boards (DHBs), 5000 general practitioners, and thousands of other providers (including voluntary and other non-government organisations, and privately operated hospitals).
- 1.55 Effective delivery of health services across the health sector relies on ready access to comprehensive and current information. The Director-General of Health appointed a Health Information Management and Technology Plan Advisory Board in December 2000 to oversee a plan to better organise health information. The Advisory Board published its findings in October 2001 in a report – *From Strategy to Reality: The WAVE Project*.
- 1.56 The Advisory Board concluded that:
- the primary strategic goal was to integrate health information systems; and
  - the secondary goal was to ensure on-going continuity and governance of health information management and information technology from a sector perspective.
- 1.57 It recommended that (as a top priority) an agency be established to oversee and drive common information technology issues in the health sector to better record, share, analyse, and use health information.



- 1.58 The Advisory Board made, in all, 79 recommendations (including 10 priorities) for better organisation of health information.
- 1.59 In its Statement of Intent for 2002-03 the Ministry of Health identifies one of its roles as the governance of health information, systems and standards relating to health information, and technology across the health sector. The Ministry has appointed a chief adviser to oversee implementation of the Health Information and Technology Plan recommendations and to address the immediate areas requiring improvement.
- 1.60 The Ministry faces significant challenges in ensuring that the Plan recommendations are taken up by the many diverse participants in the health sector. The DHBs, which have considerable autonomy, nevertheless will be major partners with the Ministry. The Ministry is seeking to use its influence over funding agreements and planning processes to ensure widespread compliance with a range of standards and systems for the collection, classification, security, storage, and transmittal of electronic information.
- 1.61 The Ministry is using a number of tools to lead and co-ordinate implementation of ICT in the health sector:
- All DHB annual and strategic plans must be aligned with the *WAVE* report.
  - Establishment of the two new organisations recommended in the *WAVE* report –
    - the Minister of Health set up and has received a report from an advisory group on establishing a Health Information Standards Organisation; and
    - a Shared Services Organisation, which has already achieved amalgamation of a national service organisation.
  - The Ministry supports the Health Intranet Governance Board, which is looking to facilitate increased electronic health transactions and business.



- Sector representatives (including private hospitals) meet to agree coding and data standards in the National Data Policy Group.

1.62 The Ministry has already put in place:

- a secure Health Network;
- digital certification for Ministry staff and sector providers (that conforms to the recently released e-government specifications);
- electronic claiming for over 5000 service providers; and
- a Community Management System for Maori providers.

1.63 The Ministry's main goal is to implement an ICT infrastructure to enable DHBs and other sector participants to share information. For example, the Ministry has sought to standardise clinical information and create common messaging formats for the exchange of clinical information.

1.64 The Ministry has taken steps to encourage the health sector to transact business electronically. However, in our view, the Ministry should consider ways to encourage all DHBs and other service providers to use electronic channels to their full potential. Without encouragement, initiatives are likely to be undertaken on a regional basis that are incompatible with each other and national standards.

1.65 The Ministry has adopted the *WAVE* report as its primary e-strategy for the health sector. The Ministry's progress in creating an e-society in the health sector will be measured in terms of the Health Information and Technology Plan.

### *Local Government*

1.66 The 86 regional, city and district councils that make up local government serve different communities with a variety of priorities and expectations. Local government has no central co-ordinating agency with the roles, functions and powers of the SSC to ensure that the local government sector adopts and follows a set of consistent standards and collaborates in the development of e-initiatives.

1.67 As a result, progress in development of e-local government has been patchy and fragmented, though some promising initiatives have emerged – for example:

- a local government web site was established by New Zealand Local Government Online in September 1998;
- the Auckland area local authorities have developed a region-wide web portal; and
- a large number of local authorities have web sites – some of which are of very high quality and offer useful information and services to the public.

1.68 New Zealand Local Government Online – owned by the New Zealand Society of Local Government Managers Inc and the Association of Local Government Information Management Inc – has been assigned the task of developing strategies for e-initiatives in local government. New Zealand Local Government Online’s stated vision is:

*To help local government transform into e-local government through innovative leadership and by providing leading-edge services and facilities.*

1.69 A New Zealand Local Government Online survey has reported that 80 of the 86 local authorities currently have a web presence of one sort or another. New Zealand Local Government Online will shortly be offering a free, basic web site to those local authorities without a web site.

1.70 Other initiatives and achievements of New Zealand Local Government Online include:

- establishing a network to facilitate e-mail communication between different professional groups working in local government: a software application “List Serv” facilitates “bulletin board” style notices to 36 professional groups by an exchange of approximately 25,000 e-mail communications per week;
- co-ordinating a project to publish the results of the October 2001 local government elections on-line;
- developing a programme for local authorities to collectively procure goods or services on-line;

- setting up a local government portal to provide access to the web sites of individual authorities; and
- providing a template web site and generic service to 16 local authorities.

1.71 New Zealand Local Government Online has also compiled an on-line resource library, and plans shortly to launch a project to put on-line forms used by a group of local authorities. On-line forms are an important dimension of service delivery, and will be a convenient means for many members of the public to interact with their local authorities.

1.72 Local Government New Zealand has recently assumed responsibility for the co-ordination, promotion, encouragement, and education of e-local government.

1.73 An e-local government team has been established to develop a strategy for the local government sector. The vision in the strategy is that:

*People will have easy access to local government information, services and local democracy.*

1.74 The strategy is intended to enable local government to engage effectively with the SSC to ensure that the e-initiatives undertaken in local government are consistent with the standards developed for central government. The e-local government team includes local authority representatives as well as the SSC and the MED. In turn, local government is represented on the E-government Advisory Board. However, implementation of the strategy in the local government sector relies on the commitment and priorities of individual councils.

1.75 Recognising that citizens do not necessarily differentiate between services provided by local and central government, the SSC has consulted local government representatives in the design of many of its e-government projects. The SSC, in conjunction with the local government representatives, identified the 150 services generic across local government to be included in the portal.

## E-commerce

- 1.76 The MED's role is to promote the E-Commerce Strategy. Its mission (in conjunction with the private sector) is to:
- Provide leadership in communication, and in monitoring e-commerce capability through research; lead by example through e-government and e-procurement; and ensure a continuing supply of skilled resources.
  - Build capability by facilitating the building of e-commerce skills; work to ensure that all people have access to life-long learning opportunities to develop information technology skills for the 21<sup>st</sup> century; and build broader information technology literacy skills in the community.
  - Provide an enabling regulatory environment – through timely legislative responses; development and protection of infrastructure; and promotion of the country's interests internationally.
- 1.77 The MED is currently working on changes to legislation. Annex 2 (on page 40) shows the work done and progress made. The MED has also developed the *New Zealand Model Code for Consumer Protection in Electronic Commerce* to assist the business sector to develop self-regulatory mechanisms, and has supported the development of the e-Marketing Standards Authority.
- 1.78 The MED is responsible for considering means of increasing the availability of high-speed Internet access through the provision of increased bandwidth. As e-activity increases, and as additional media are “digitised”, the requirement for data-transfer capacity – i.e. bandwidth – increases.
- 1.79 High-speed internet services are generally available in New Zealand's main urban centres but the regions often do not have access or only have access at a high cost. An improved information infrastructure is critical for a range of government initiatives including the E-government, E-Commerce and Regional Development Strategies.

1.80 The Government set itself the following goal in August 2001:

*All New Zealand communities are able to access two-way, high speed Internet services by the end of 2003.*

1.81 It does not see its role as funding the roll-out of a new telecommunications infrastructure, but rather as facilitating the spread and take-up of high-speed Internet services working in partnership with businesses, local authorities, and communities.

1.82 Four major initiatives are in hand to meet this goal:

- Approval was given to fund six regional pilot schemes (Northland, Southland, Taranaki, Wairarapa, South Waikato and the East Cape) in October last year. The intention is that regional development agencies will work in their regions to establish sufficient ongoing demand for broadband services to attract and encourage suppliers (including non-traditional suppliers) to install the infrastructure. These pilot schemes have had input from the Ministry of Agriculture and Forestry, the Ministry of Education, Industry New Zealand, and the local authorities in the areas concerned.
- The Ministry of Education and the MED are working on a joint initiative to provide broadband or high speed Internet access to all New Zealand schools and communities. A steering group overseeing this programme includes representatives from the SSC and the DPMC.
- Developing business capability in the use of e-commerce – this being done in conjunction with Industry New Zealand and Trade New Zealand.
- Providing information on implementing and using broadband and e-commerce – this is largely the result of the work that the MED is doing on broadband and is closely associated with the work being undertaken by the Department of Labour and the digital divide strategy group.

1.83 The MED was also responsible for establishing an E-commerce Action Team (ECAT) in March 2001. Team members are drawn from central and local government,

business, the education sector, Maori, and community organisations. ECAT's role is to:

- co-ordinate government and private sector efforts to facilitate the adoption of e-commerce;
- identify a core research programme; and
- provide advice to the Government.

1.84 A key objective is to establish regional or sector-based teams and to support existing groups. Several “mini-ECATs” have been formed – including groups focusing on research and education, and a rural ECAT led by Federated Farmers.

## E-communities

1.85 The Department of Labour has been given primary responsibility for addressing the digital divide (see paragraph 1.9 on page 14). The work being done has been refocused to emphasise community access to and competence with using ICT so that:

*All New Zealanders, either as individuals or as members of communities, have the opportunity to access and effectively use current and emerging information and communications technologies.<sup>9</sup>*

1.86 An inter-departmental project team led by the Community Employment Group in the Department of Labour has been formed and a Community Access to ICT Strategy has been developed. The Strategy aims to co-ordinate the efforts that already exist and involves:

- developing or adapting best-practice planning tools;
- co-ordinating central government assistance for community ICT initiatives;
- strengthening organisational infrastructures to support community ICT access;
- developing communications and networking;
- developing an ICT research and evaluation programme;

9 From the draft strategy – *Connecting Communities: A Strategy for Government Support of Community Access to Information and Communications Technology.*

- training programmes for workers supporting community ICT projects; and
- relationship development and partnership building.

1.87 The work is to be linked to the MED's programmes to aggregate demand for bandwidth and to the Ministry of Education's e-learning initiatives. It is intended to further contribute to the existing strategies and policies to turn the digital divide into a "digital opportunity".

1.88 It is anticipated that the Community Access to ICT Strategy will be rolled out from the second half of this year.

1.89 Education also plays an important role. By the end of this year, it is envisaged that schools will be demonstrating that they are:

- improving learning outcomes for students by using ICT to support the aims and objectives of the curriculum, and by providing professional development to teachers and principals;
- using ICT to improve the efficiency and effectiveness of educational administration; and
- developing partnerships with their communities to enhance access to learning through ICT.

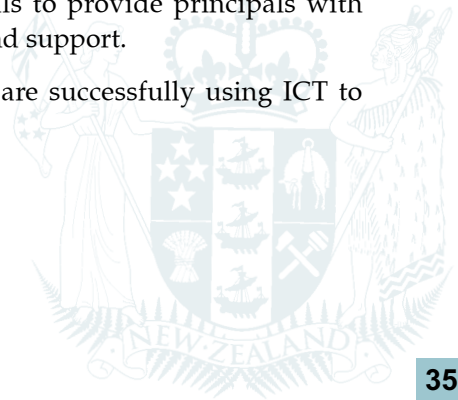
1.90 Three focus areas are infrastructure, improving school capability, and learning:

- *Infrastructure issues* are concerned with increasing schools' access to and management of the technology, including sharing of resources between schools and communities.
- *Capability issues* relate to providing opportunities for school leaders and teachers to increase their ability to understand and use the technology.
- *Learning* relates to how infrastructure and capability are used to develop new ways of teaching and learning and improve management practices.

1.91 There are various initiatives, including:



- The establishment of Te Kete Ipurangi – the Online Resource Centre, the bilingual education portal for schools.
- A partnership with Australia to develop on-line curriculum content. A five-year project (2001-05) is responsible for producing high-quality digital learning objects, as well as standards for the development, management and delivering of digital material.
- Laptop computers for secondary school teachers, giving permanent full-time teachers the opportunity to lease a laptop for a three-year period, with Government funding meeting up to two-thirds of the total cost of leasing, and teachers or schools meeting the other third.
- High-speed Internet access for all schools will provide provincial areas with a similar level of service to that which is currently available in the main urban centres, making it possible for schools throughout the country to use the Internet as an integral teaching, professional development, and administration tool.
- A partnership between schools, business, and the Government to provide resources for four pilot programmes exploring various approaches to ICT to enrich learning, with an emphasis on mathematics, science and information technology – FarNet, General XP, Notebook Valley, Study Support Centres.
- Leadership development initiatives for principals including providing laptops for all principals by the end of 2003, *LeadSpace* (a dedicated portal giving principals quick and easy access to the information and services they need), and an on-line network, facilitated by ex-principals to provide principals with professional discussion and support.
- Contracting schools that are successfully using ICT to



enhance teaching and learning to provide advice and guidance to school clusters. Currently, 50 clusters are contracted, which will be joined by an additional 20 in 2003, and another 23 have completed contracts. The contracts are for three years.

- A Microsoft® software package for schools.



## Annex 1 – SSC Projects

| Project                                  | Description  | Status   |
|--|--|--|
| Government Portal                        | Structured access to the web sites of government agencies, so that government information and services can be found from one place without having to understand how government is structured and which sites to use.   | A strategy has been produced to develop a citizen-focused portal by July 2002. The project is on target for 1000 services across 65 organisations.                               |
| Government Information Discovery (GUIDE) | Consistent description of information and services. The descriptions are referred to as metadata.  | An agreed way to describe information and services so that they can be found easily through the portal that has been developed and is being used across 65 organisations.        |
| Geospatial Information                   | Consistent description of addresses, road and place names.   | A metadata standard has been developed.  |
| Government Services Online               | Identify which services will be offered on-line when the portal goes live.   | Listing the government services is under way – to date 1000 services have been catalogued across 65 organisations.   |
| Government Web Guidelines                | Ensure government web sites are accessible in that they are: <ul style="list-style-type: none"> <li>• easy to use;</li> <li>• accessible to disabled users;</li> <li>• accessible with low-speed computers and/or bandwidth; and</li> <li>• consistent.</li> </ul> | Guidelines have been produced and published. Government agencies are expected to comply with the guidelines by December 2002, or have in place firm plans to do so by that date. |

# PUBLIC SECTOR PROGRESS TOWARDS AN E-SOCIETY

| Project  | Description  | Status   |
|--|--|--|
| Authentication                                 | Ensure that government services delivered over the Internet reach the right person. This will involve electronic verification that people are who they say they are and that privacy is protected.           | Work done with a range of stakeholders to establish proposed policy implementation principles. Cabinet has approved the policy principles.   |
| Internet Skills of Public Servants             | Encourage training to ensure public servants use the Internet in an efficient and productive way.  | Led by the Public Sector Training Organisation.  |
| Inter-operability Framework                    | Introduce a standardised system of decision-making processes about investment, development, and management of IT resources. (Each government agency currently runs its own business and technology systems.) | Initial design of a framework to support the sharing of information and applications by government agencies has been completed. This is a prerequisite to enable integrated electronic service delivery. |
| Leveraging Infrastructure                      | Use existing technical capabilities more effectively. Infrastructure includes staff, business processes, computer hardware and software.   | An initial analysis concluded that this goal was best achieved through the use of common standards across the public sector, which will be pursued through the interoperability framework.               |
| National Information Infrastructure Protection | Improve the protection of critical infrastructure (e.g. telecommunications and power) from cyber attacks.  | A National Information Infrastructure Protection Strategy has been developed and the Centre for Critical Infrastructure Protection established at the Government Communications Security Bureau.         |

| Project                                  | Description   | Status  |
|--|---|---|
| Electronic billing and payments          | To develop a whole-of-government approach to electronic billing and payments to be transacted securely over the Internet.   | Lack of an e-billing market identified and the initial strategy is to wait until one emerges. To be reviewed before June 2002.  |
| Procurement                              | Modernise how the Government buys goods and some services.  | Contract for 2 phases: <ul style="list-style-type: none"> <li>• pilot April to October 2002; and</li> <li>• a 5-year contract from when it becomes operational in October 2002.</li> </ul>  |
| Secure Electronic Environment (SEE)      | Enable public servants to work securely together over the Internet. "Securely" means maintaining the confidentiality of the information and ensuring that the information is not altered in any unauthorised way. | Secure e-mail system available for all government agencies – S.E.E. Mail. Draft high-level e-government directory policy and schema – the S.E.E. Directory – and a policy framework for the adoption of Public Key Technology in government – S.E.E. PKI – published. |
| Shared Workspace                         | Enable different agencies and different locations to use the Internet to work on policy documents to develop policy that cuts across several areas.   | Functional requirements for a system established.   |
| Build cross-agency e-government networks |   | Regular meetings and communications bringing together the people leading e-government.  |

## Annex 2 – Regulatory Environment

MED has done the following work to establish an enabling regulatory environment.

| Legislative Change                | Reason for Change  | Status  |
|-----------------------------------|--|---|
| The Electronic Transactions Bill  | The Bill is intended to remove legislative impediments to the use of electronic technology for communications and record-keeping in some areas; and to remove avoidable uncertainty surrounding the legal status of electronic communications and related uses of modern technology. | The Bill has received its second reading.   |
| The Crimes Amendment Bill (No. 6) | The Bill will address computer-related crime.  | The Bill has been reported back from the Select Committee and is awaiting Parliament's further consideration. |
| The Telecommunications Act        | The Act is designed to create a more efficient and competitive telecommunications market in New Zealand for the benefit of both business and domestic customers.   | The Act came into force in December 2001.   |
| Other initiatives                 | Work on the reform of evidence law, including electronic evidence.   | At the policy approval stage.   |