



# Report: Government Use of ICT 2008

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## Overview

As at 30 June 2008:

- Total State sector<sup>1</sup> expenditure on Information and Communication Technology (ICT) in the year to 30 June 2008 was \$1.94 billion.
- Responding Chief Information Officers (CIOs) typically perceived that they spent a relatively high proportion of total ICT expenditure (median 79 percent) on keeping the business running as opposed to transforming it (providing new and improved services).
- Significant proportions of responding organisations were independently investing in the same types of capital investment projects and/or were doing business with the same external suppliers. Nevertheless, just 22 percent of organisations were confident when undertaking a procurement exercise that they knew which other organisations were undertaking similar exercises.
- To support their ICT investment decisions, 83 percent of organisations had an Information Systems Strategic Plan and 73 percent of organisations had key information about investments collected together in a single place. However, rather fewer were benchmarking their ICT practices, with just 26 percent of organisations having undertaken a capability maturity assessment of any kind within the previous six months.
- Fifty-four percent of organisations probably do not reuse information that a person has already provided.

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<sup>1</sup> Except Conservation Sector organisations, School Boards of Trustees, Tertiary Education Institutions, and Trusts. See Technical Notes section.

# Introduction

## ***Strategic context***

The role of the Government Chief Information Officer (CIO) within the State Services Commission (SSC) is to provide leadership in the use of ICT across government, specifically in the areas of:

- **Value for money<sup>2</sup>:** advice to Ministers on ICT expenditure, including implementation and operation of the Gateway programme for major investments, ICT syndicated procurement and ICT capability and skills across government agencies.
- **Strategic leadership:** setting expectations of government organisations for improved front-line services through the use of technology to achieve government outcomes and meet New Zealanders expectations, promoting collaboration between government organisations in the development and use of ICT systems, providing guidance and support, and reporting on progress. This includes leading the Networked State Services Development Goal<sup>2</sup> and the E-government Strategy<sup>3</sup>.
- **Fostering innovation:** applying technology to create innovation in service delivery, working with government agencies and the New Zealand ICT industry to utilise and leverage New Zealand skills and expertise for government.

## ***About the Government Use of ICT Survey 2008***

The Government Use of ICT Survey is a survey of government CIOs (or equivalent role) that aims to provide information about the present state of government ICT use and ICT investment practice. Its purpose is to inform decisions and monitor progress relating to the Value-for-Money State Services and Networked State Services development goals.

In 2008, the survey was administered by the State Services Commission and took the form of an online questionnaire. It covered 163 State sector organisations - 144 central government organisations and 19 State-owned enterprises. The overall response rate was 64 percent, but was somewhat higher for larger organisations and lower for smaller organisations (e.g. 95 percent for organisations with more than 1,000 employees and 22 percent for organisations with less than 50 employees). The survey results are therefore more representative of larger organisations than of smaller ones.

The survey covered the following topics, each broadly relating to a development goal but with some overlap:

Value for Money:

- ICT expenditure
- ICT investment practice
- Plans for ICT investment
- ICT infrastructure (specifically desktops/laptops and servers, Internet connections and video technology)
- Open source software
- ICT staff.

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<sup>2</sup> Development goals for the State Services, see <http://www.ssc.govt.nz/development-goals>

<sup>3</sup> E-government Strategy, see <http://www.e.govt.nz/about-egovt/strategy/>

Networked State Services:

- Networked State Services development goal indicators
- Use and awareness of standards
- Data exchange with other organisations
- Data reuse, specifically capability around web content management systems.

Additional questions on organisations' desktop strategies and use of the G2006 Microsoft volume licensing agreement were also included. The latter data are currently being used as part of the G2009 negotiations and are not published in this report.

The Government Use of ICT survey was previously run by Statistics New Zealand which undertook one collection in 2006. The 2008 and 2006 questionnaires have several questions in common but there is limited scope for comparison, as unlike the 2008 collection, the 2006 collection included local government organisations and tertiary education institutions and excluded State-owned enterprises. Further differences are outlined in the Technical Notes section.

It should be noted that ICT activity can occur throughout business units in an organisation and may not always be visible to the Chief Information Officer or equivalent role that responded to this survey. The results therefore reflect the CIO's picture of ICT in the organisation, which may differ from the complete picture.

## Results: Value for money

### ICT expenditure

**Total ICT expenditure** (operating plus capital) for the entire survey population of 163 organisations was \$1.94 billion (Table 1). Imputed responses made up 6.2 percent (\$0.12 billion) of this total.

**Table 1** Government ICT expenditure by organisation size and type for the 163 organisations in the population (30 June 2008)

	Operating expenditure \$(000)	Capital expenditure \$(000)
<b>Organisation size<sup>4</sup></b>		
<50 employees	6,940	3,991
50–99 employees	5,314	1,939
100–499 employees	137,151	51,995
500–999 employees	154,210	76,731
1000–4999 employees	569,676	286,711
5000 or more employees	487,104	156,273
<b>Organisation type</b>		
Central government	1,054,495	414,448
State owned enterprise	305,900	163,192
<b>Overall</b>	<b>1,360,395</b>	<b>577,640</b>

The ‘Central government’ subpopulation in this survey is likely to be close to the combined ‘Central government’ plus ‘Crown research institute’ subpopulations from the Statistics New Zealand Government Use of ICT Survey 2006, so it is possible to perform a limited comparison of expenditure for this population across the two periods, acknowledging that there remain residual differences in population and in imputation methodologies that will limit interpretation (see Technical Notes section).

Table 2 indicates that total Central government ICT expenditure in the year to 20 June 2008 may have increased 12 percent since 2006 (from \$1.31 billion to \$1.47 billion) and respectively lower and higher proportions have been allocated to capital and operating expenditure.

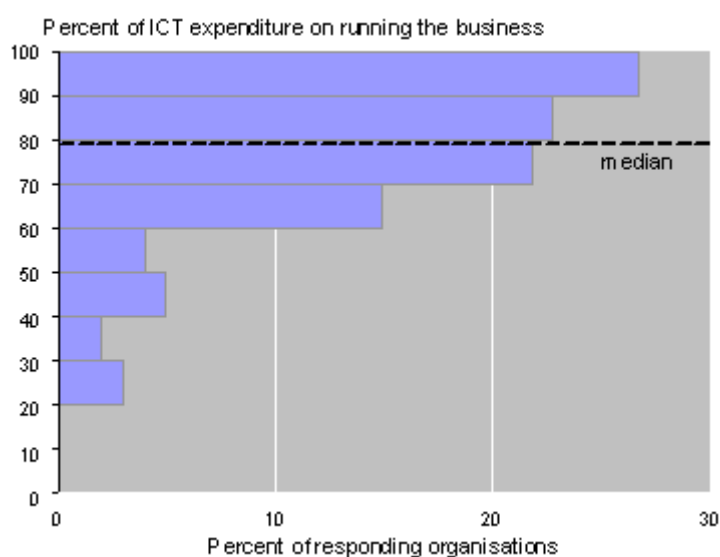
**Table 2** Government ICT expenditure: comparison of populations in common between Government Use of ICT Survey 2008 and Statistics New Zealand's Government Use of ICT Survey 2006. Note that residual differences in population and imputation methodologies remain and will limit interpretation.

	Organisation type	Total number of organisations	Operating expenditure \$(000)	Capital expenditure \$(000)	Total expenditure \$(000)
Government Use of ICT survey 2006 (Statistics New Zealand)	‘Central government’ plus ‘Crown research institute’	138	796,218	512,012	<b>1,308,230</b>
Government Use of ICT survey 2008 (State Services Commission)	‘Central government’ (includes CRIs)	144	1,054,495	414,448	<b>1,468,943</b>

<sup>4</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource Capability Survey, organisation websites, and the number of reported ICT users.

CIOs were asked to estimate how much of their organisation’s total ICT expenditure was on **running** the business versus **transforming it**. While a major point of ICT investment is to improve overall business performance, a typical Gartner Research<sup>5</sup> benchmark from the private sector is that typically about two-thirds of IT spending is on keeping a business running and only around a third is on transforming it.

The survey responses were estimates and not based on actual spending so may be somewhat subjective. There was a wide variation in responses, from 20 percent of expenditure on running the business in some organisations to 100 percent in others (Table 3). However, overall the responses suggest that New Zealand State sector organisations typically perceive a relatively high proportion of their ICT expenditure is on keeping the business going compared to transforming it. The median (middle) response was 79 percent of expenditure on running the business (versus 21 percent on transforming it).



**Figure 1** Proportion of total ICT expenditure on running the business (30 June 2008)

**Table 3** Proportion of total ICT expenditure on running the business (30 June 2008)

Percent of total ICT expenditure on running the business	Percentage of responding organisations <sup>6</sup>
0-9	0
10-19	0
20-29	3
30-29	2
40-49	5
50-59	4
60-69	15
70-79	22
80-89	23
90-100	27

**Note:** Due to rounding, percentages may not add to 100

<sup>5</sup> *Realising the Benefits of Project and Portfolio Management*, Light, M., Rosser B., and Hayward, S. 2005. Gartner Research report G00125673.

<sup>6</sup> Percent is of the 101 organisations that responded to this question

### ***ICT investment practice***

Greater value may be realised from ICT investment where it closely supports the strategic aims of the organisation, where both ICT-enabled and non-ICT-enabled investments can be overseen and managed as a portfolio and where processes exist to reflect on and improve ICT performance.

Eighty-three percent of responding CIOs indicated that their organisation had an **Information Systems Strategic Plan** (ISSP) or equivalent (Table 4). Forty-three percent of responding organisations had an ISSP both updated in the last year and signed off by the organisation's Chief Executive ( ), characteristics that could signify the degree of connection between the ISSP and overall strategic intent of the organisation.

Key information about all an organisation's (ICT-enabled and non-ICT-enabled) current investments being collected together in a single place is a prerequisite of the discipline of **portfolio management**. Seventy-three percent of CIOs that responded indicated that they had this.

However, relatively few organisations benchmark their practices against others with 26 percent of responding CIOs indicating that their organisation had undertaken a form of **capability maturity assessment** in 2007/2008. Of reported capability maturity assessment areas, Service Delivery was the most common (17 percent of all responding organisations).

**Table 4** Government ICT investment practice by organisation size and type (30 June 2008)

	Total number of responding organisations	Has ISSP	Portfolio of investments maintained	Capability maturity assessment undertaken	Capability maturity assessment area <sup>7</sup>							
					Projects	Programmes	Portfolios	Service delivery	Software engineering	Other		
					Percent <sup>8</sup>							
<b>Organisation size<sup>9</sup></b>												
<50 employees	10	3	60	10	0	0	0	0	0	0	0	
50–99 employees	6	4	100	0	0	0	0	0	0	0	0	
100–499 employees	36	30	81	22	14	0	3	19	6	3		
500–999 employees	14	11	64	50	14	7	0	29	14	14		
1000–4999 employees	29	26	69	31	21	14	7	17	0	7		
5000 or more employees	10	9	70	20	0	0	0	20	0	0		
<b>Organisation type</b>												
Central government	93	75	76	24	12	4	2	14	3	5		
State owned enterprise	12	8	50	42	17	8	8	42	8	0		
<b>Overall</b>	<b>105</b>	<b>83</b>	<b>73</b>	<b>26</b>	<b>12</b>	<b>5</b>	<b>3</b>	<b>17</b>	<b>4</b>	<b>5</b>		

<sup>7</sup> Organisations that indicated that a capability maturity assessment was undertaken may not have subsequently named the area or may have undertaken capability maturity assessment in more than one area so areas percentages may not add to the stated total for 'capability maturity assessment undertaken'

<sup>8</sup> Percentages are of all responding organisations in each size or type

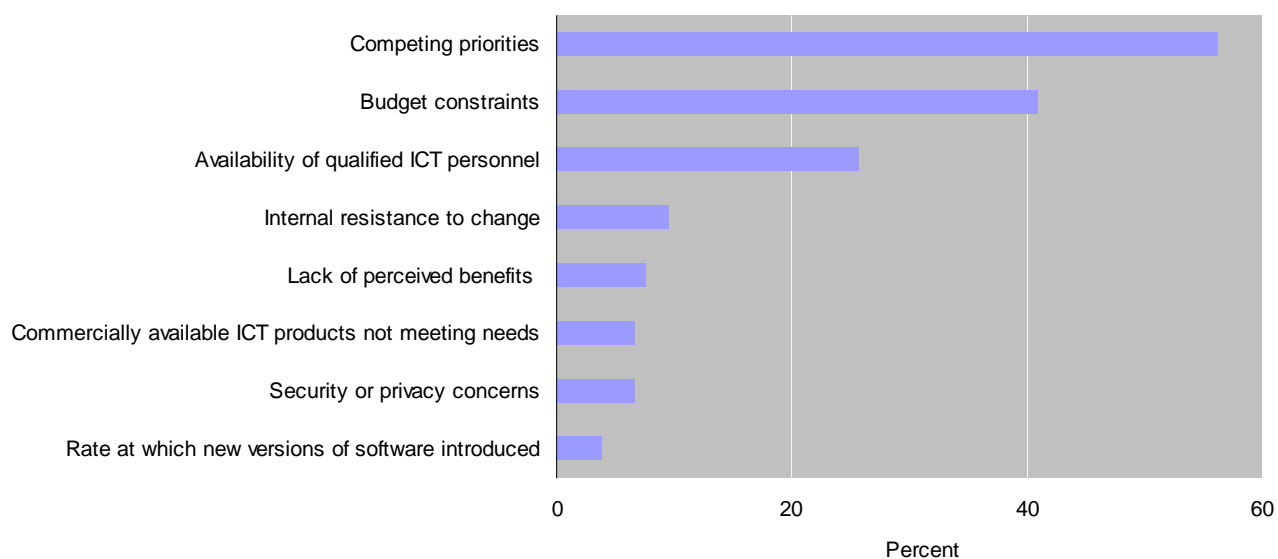
<sup>9</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource Capability Survey, organisation websites, and the number of reported ICT users.

**Table 5** Properties of government Information Systems Strategic Plans (ISSPs) (30 June 2008)

Signed off by Chief Executive	Updated within last year				Overall
	yes	no	don't know	no ISSP	
	Percent <sup>10</sup>				
yes	43	21	1	0	<b>65</b>
no	10	4	0	0	<b>13</b>
don't know	1	3	1	0	<b>5</b>
no ISSP	0	0	0	17	<b>17</b>
<b>Overall</b>	<b>53</b>	<b>28</b>	<b>2</b>	<b>17</b>	<b>100</b>

**Note:** Due to rounding, some figures may not add to stated total

‘Competing priorities’ was the most commonly cited **factor restricting the implementation of new ICT** (56 percent of responding CIOs indicated this restricted ICT implementation to a ‘high’ degree), followed by budget constraints (41 percent). These were also the top cited factors in 2006<sup>11</sup>.



**Figure 2** Factors highly restricting the implementation of new ICT (30 June 2008)

<sup>10</sup> Percentages are of all 105 responding organisations

<sup>11</sup> Government Use of ICT Survey 2006, Statistics New Zealand.

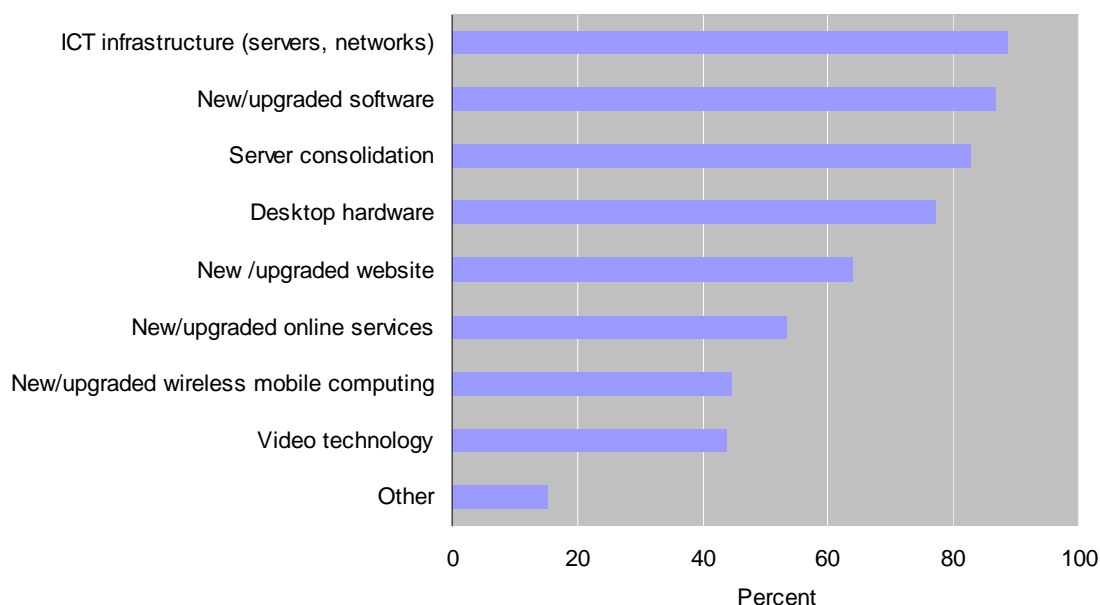
**Table 6** Factors restricting government implementation of new ICT (30 June 2008)

Factor	Degree of restriction			
	High	Moderate	Low	Not at all
	Percent <sup>12</sup>			
Competing priorities	56	31	9	4
Budget constraints	41	35	16	8
Availability of qualified ICT personnel	26	37	29	9
Internal resistance to change	10	34	41	15
Lack of perceived benefits	8	25	53	14
Commercially available ICT products not meeting needs	7	31	45	17
Security or privacy concerns	7	16	61	16
Rate at which new versions of software introduced	4	33	47	16

**Note:** Due to rounding, percentages may not add to 100

### Plans for ICT investment

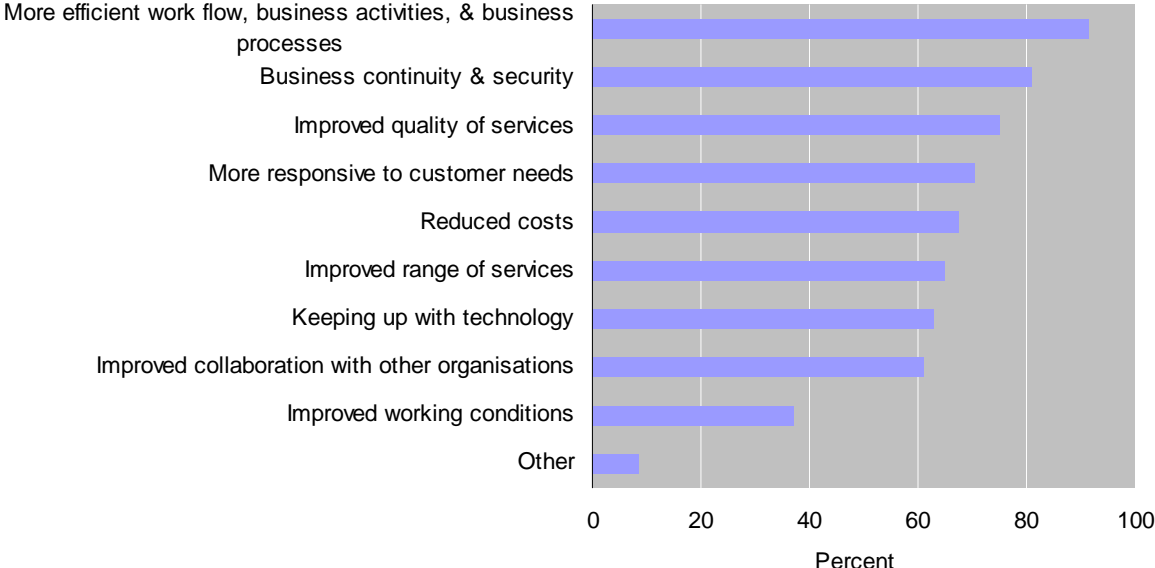
All organisations that responded indicated that they were **planning capital investment** in ICT in the ensuing 12 months and many were engaging in similar types of programmes. Eighty-nine percent indicated that investment was planned in ICT infrastructure (servers, networks), 87 percent in new or upgraded software and 83 percent in server consolidation.



**Figure 3** Government planned capital investment in ICT (2008/2009)

<sup>12</sup> Percentages are of all 105 responding organisations

The most commonly cited **benefits** from the planned ICT capital investments were more efficient workflow, business activities and processes (91 percent) and followed by improved business continuity and security (81 percent), which can probably be interpreted as mostly back-office improvements, not necessarily always visible to customers. The next most common benefits are probably largely customer-facing, namely improved quality of services (75 percent) and more responsive to customer needs (70 percent).



**Figure 4** Expected benefits from planned government capital ICT investment (2008/2009)

**Table 7** Government ICT investment plans by organisation type (30 June 2008)

	Organisation type		Overall
	Central government	State owned enterprise	
Total number of responding organisations	93	12	<b>105</b>
	Percent <sup>13</sup>		
ICT capital investment planned in next 12 months	100	100	<b>100</b>
<b>Areas of planned investment<sup>14</sup></b>			
ICT infrastructure	87	100	<b>89</b>
Server consolidation	85	100	<b>87</b>
Software	83	83	<b>83</b>
Desktop hardware	76	83	<b>77</b>
Website	61	83	<b>64</b>
Online services	51	75	<b>53</b>
Wireless mobile computing	43	58	<b>45</b>
Video technology	42	58	<b>44</b>
Other	15	17	<b>15</b>
<b>Benefits of planned investment<sup>14</sup></b>			
More efficient work flow, business activities, & business processes	90	100	<b>91</b>
Business continuity & security	80	92	<b>81</b>
Improved quality of services	74	83	<b>75</b>
More responsive to customer needs	70	75	<b>70</b>
Reduced costs	67	75	<b>68</b>
Improved range of services	66	58	<b>65</b>
Keeping up with technology	62	67	<b>63</b>
Improved collaboration with other organisations	60	67	<b>61</b>
Improved working conditions	39	25	<b>37</b>
Other	10	0	<b>9</b>

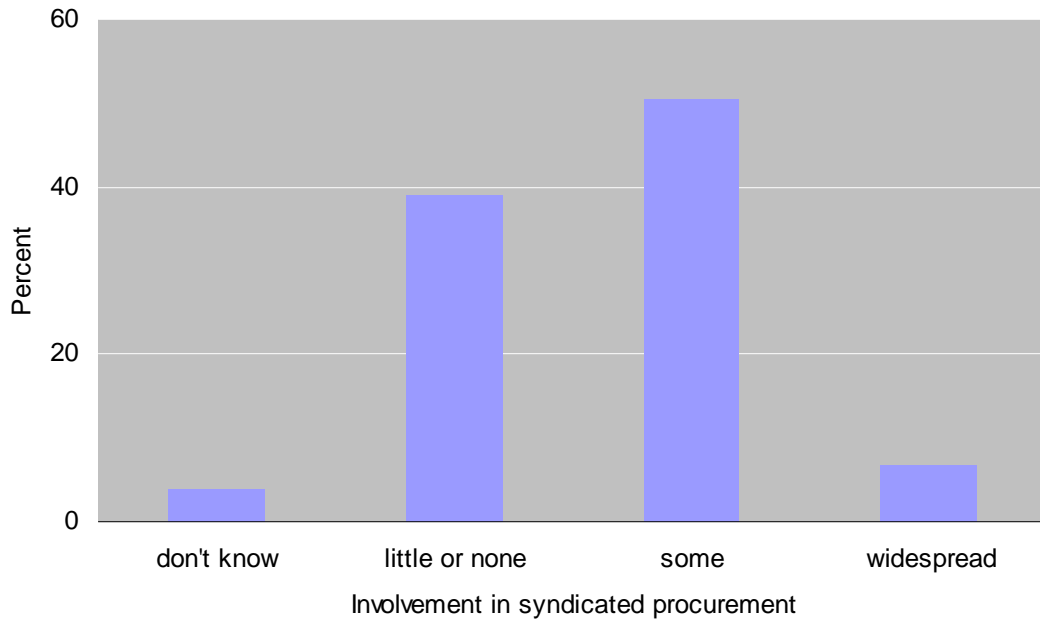
<sup>13</sup> Percentages are of all responding organisations in each organisation type

<sup>14</sup> Government organisations may have named more than one area of planned investment or benefit so percentages may add to over 100

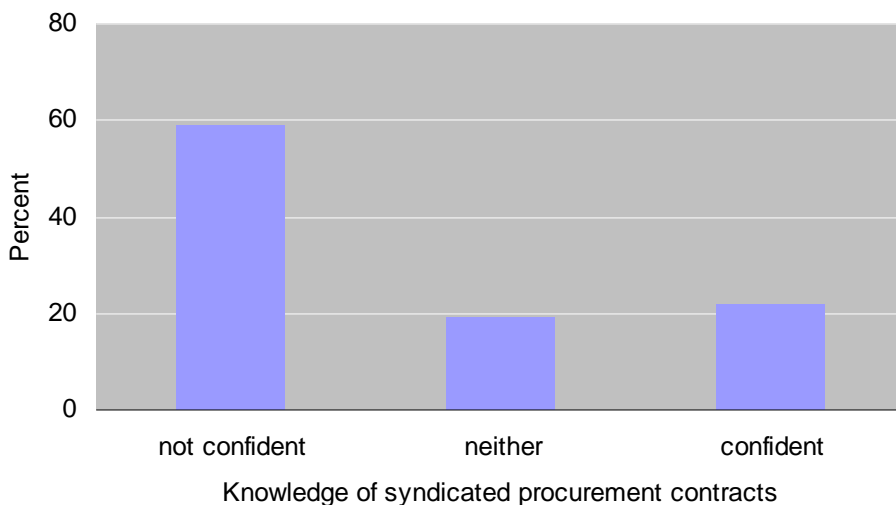
## Procurement

Syndicated procurement contracts potentially provide value through more competitive pricing and service levels that acknowledge the higher volume of business from multiple organisations.

Fifty-seven percent of responding CIOs reported some or widespread involvement in **syndicated procurement** contracts involving other government organisations (Table 8), but a somewhat lower 22 percent were confident when starting a procurement exercise that they knew what similar exercises were being planned or carried out by other government organisations.



**Figure 5** Involvement in syndicated procurement contracts by government organisations (30 June 2008)



**Figure 6** CIO knowledge of syndicated procurement contracts (30 June 2008)

**Table 8** Government syndicated procurement, by organisation size and type (30 June 2008)

	Total number of responding organisations	Degree of involvement in syndicated procurement contracts				Confidence in knowledge of existing syndicated procurement contracts		
		don't know	little or none	some	widespread	not confident	neither	confident
		Percent <sup>15</sup>						
<b>Organisation size<sup>16</sup></b>								
<50 employees	10	20	50	30	0	40	50	10
50–99 employees	6	0	67	33	0	50	17	33
100–499 employees	36	3	42	50	6	58	17	25
500–999 employees	14	0	50	43	7	71	14	14
1000–4999 employees	29	3	28	62	7	72	7	21
5000 or more employees	10	0	20	60	20	30	40	30
<b>Organisation type</b>								
Central government	93	3	37	53	8	59	17	24
State owned enterprise	12	8	58	33	0	58	33	8
<b>Overall</b>	<b>105</b>	<b>4</b>	<b>39</b>	<b>50</b>	<b>7</b>	<b>59</b>	<b>19</b>	<b>22</b>

**Note:** Due to rounding, percentages may not add to 100

In response to a question regarding outsourcing and software, Gen-I Telecom and Microsoft were identified as the predominant suppliers to Government. Several suppliers were named by a relatively high proportion of organisations, therefore there may be opportunities for future strategic procurement exercises to achieve greater value for money across government.

**Table 9** Top 5 outsourcing and software suppliers with whom responding organisations were likely to do business worth \$100,000 or more (estimated, 2008/2009 financial year)

Rank <sup>17</sup>	Supplier
<b>Outsourcing supplier</b>	
1	Gen-i/Telecom
2	Datacom
3	HP/EDS
4	IBM
5	Unisys
<b>Software supplier</b>	
1	Microsoft
2	Oracle
3	IBM
4	SAP
5	Eagle Technology

<sup>15</sup> Percentages are of all responding organisations in each size or type

<sup>16</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource Capability Survey, organisation websites, and the number of reported ICT users.

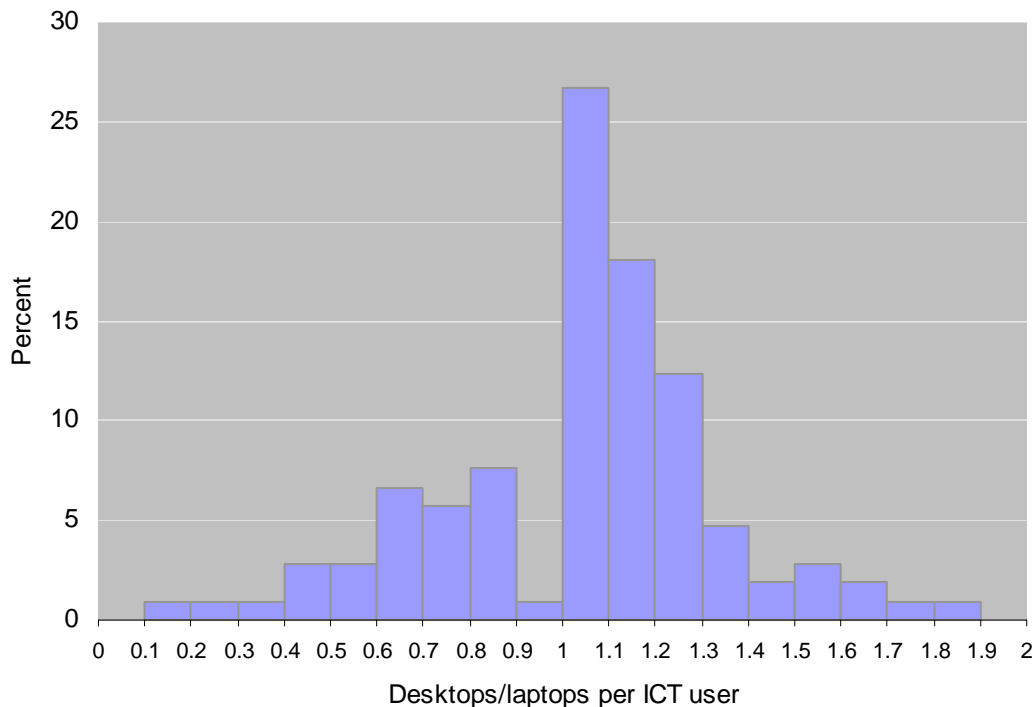
<sup>17</sup> From most commonly named to least commonly named

## ICT infrastructure

### Desktops, laptops and servers

The 105 CIOs who responded to the survey reported that their organisations managed a total of **141,714 desktops or laptops** and **14,314 servers** (Table 10). Future collections should be able to provide insight into how these figures are changing over time. Changes in the number of servers may reflect the progress of server consolidation efforts.

A user of ICT services can use only one desktop or laptop at a time, yet 44 percent of organisations appear to have 1.1 or more **desktops or laptops per ICT user**, suggesting that there may be potential in some organisations for the rationalization of desktop equipment. At the other end of the scale, organisations with significantly less than one desktop or laptop per ICT user tended to be the type where employees are not at computers all day.



**Figure 7** Distribution of government desktops or laptops per Information and Communications Technology (ICT) user (30 June 2008)

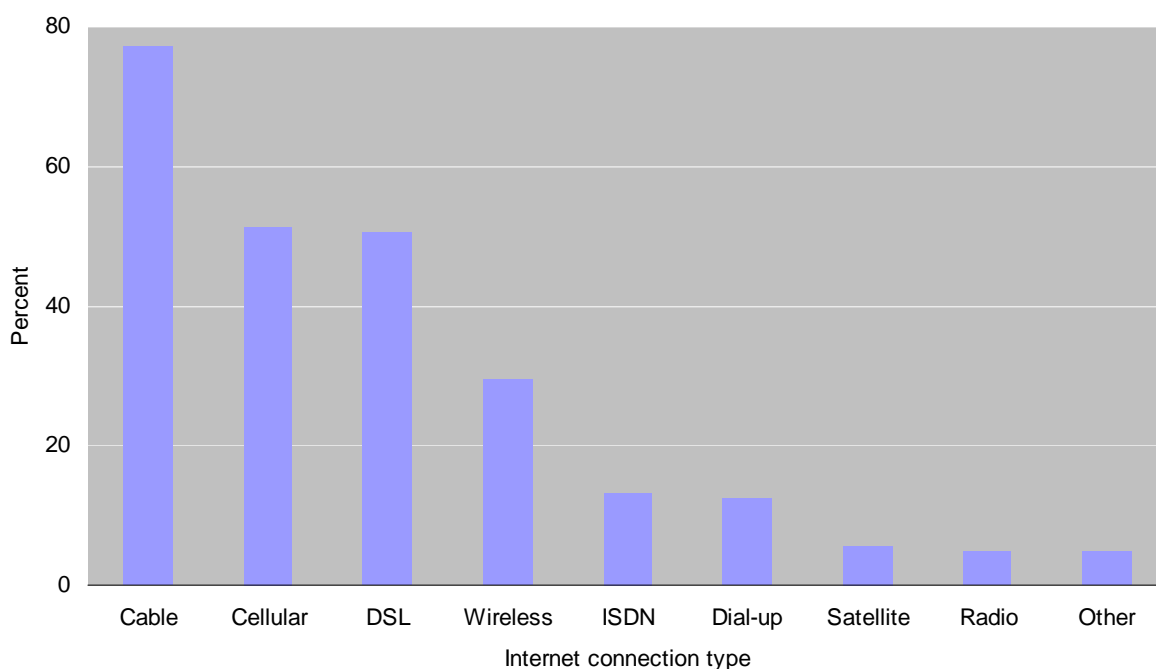
**Table 10** Number of government desktops, laptops, and servers by organisation size and type (30 June 2008)

	Total number of responding organisations	Servers	Desktops & laptops
<b>Organisation size<sup>18</sup></b>			
<50 employees	10	41	294
50–99 employees	6	79	479
100–499 employees	36	1,503	10,079
500–999 employees	14	1,570	8,730
1000–4999 employees	29	6,243	53,616
5000 or more employees	10	4,878	68,516
<b>Organisation type</b>			
Central government	93	11,726	124,723
State owned enterprise	12	2,588	16,991
<b>Overall</b>	<b>105</b>	<b>14,314</b>	<b>141,714</b>

### Internet connection type

Cable was the most common **Internet connection type** used by responding government organisations (77 percent) followed by cellular (51 percent) and DSL (Digital subscriber line, 50 percent). Reported cable use is higher and DSL use lower than in 2006<sup>19</sup> when the most reported connection type was DSL.

The mix of technologies and trends over time by which agencies are connecting to the Internet may have implications for future procurement opportunities.



**Figure 8** Government Internet connection type (30 June 2008). Government organisations may use more than one connection type so percentages may add to over 100 percent.

<sup>18</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource Capability Survey, organisation websites, and the number of reported ICT users.

<sup>19</sup> Government Use of ICT Survey 2006, Statistics New Zealand

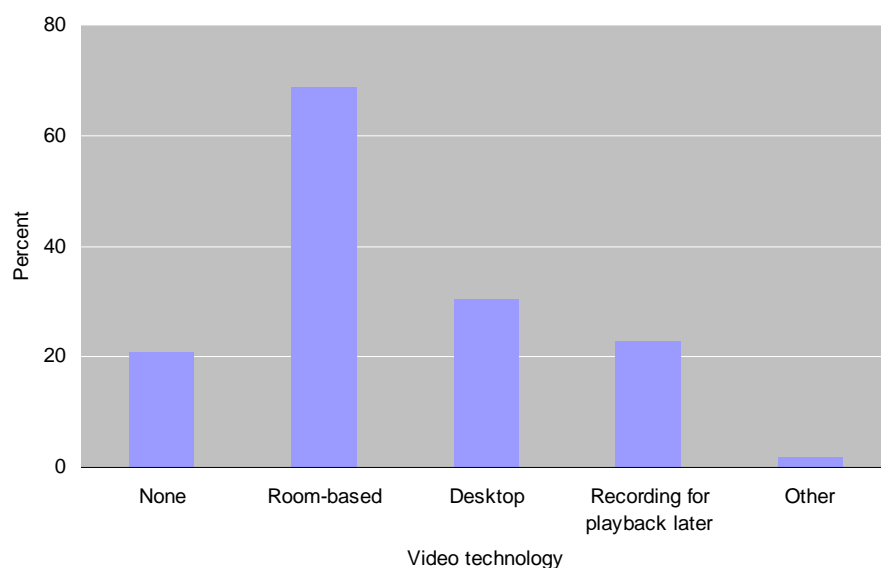
**Table 11** Government Internet connection type by organisation size and type (30 June 2008)

	Total number of responding organisations	Internet connection type <sup>20</sup>								
		Broadband							Dial-up	Other
		Cable	Cellular	DSL	Wireless	ISDN	Radio	Satellite		
Percent <sup>21</sup>										
<b>Organisation size<sup>22</sup></b>										
<50 employees	10	40	30	50	0	0	0	0	10	0
50–99 employees	6	83	33	17	17	0	0	0	0	0
100–499 employees	36	83	56	39	31	14	3	3	8	6
500–999 employees	14	64	79	79	64	29	14	14	14	0
1000–4999 employees	29	83	45	48	24	7	3	3	17	10
5000 or more employees	10	90	50	80	20	30	10	20	20	0
<b>Organisation type</b>										
Central government	93	76	49	49	27	12	4	4	12	5
State owned enterprise	12	83	67	58	50	25	8	17	17	0
<b>Overall</b>	<b>105</b>	<b>77</b>	<b>51</b>	<b>50</b>	<b>30</b>	<b>13</b>	<b>5</b>	<b>6</b>	<b>12</b>	<b>5</b>

### Video technology

Video technology has the potential to replace meeting travel and reduce government travel costs. The sharing of facilities between organisations might reduce overhead costs.

Sixty-nine percent of CIOs that responded reported that their organisation already used room-based **video technology**. Larger organisations were more likely to use room-based video technology than smaller organisations (Table 12). The next most popular mode was desktop (30 percent).



**Figure 9** Government use of video technology (30 June 2008)

<sup>20</sup> Government organisations may use more than one connection type so percentages may add to over 100 percent

<sup>21</sup> Percentages are of all responding organisations in each organisation size or type

<sup>22</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource . Survey, organisation websites, and the number of reported ICT users

**Table 12** Government use of video technology, by organisation size and type (30 June 2008)

	Total number of responding organisations	Video technology mode <sup>23</sup>				
		None	Room-based	Desktop	Recording	Other
		Percent <sup>24</sup>				
<b>Organisation size<sup>25</sup></b>						
<50 employees	10	60	40	20	10	0
50–99 employees	6	33	67	17	0	0
100–499 employees	36	19	56	31	25	0
500–999 employees	14	21	71	50	29	7
1000–4999 employees	29	14	83	28	21	3
5000 or more employees	10	0	100	30	40	0
<b>Organisation type</b>						
Central government	93	22	69	30	20	2
State owned enterprise	12	17	67	33	42	0
<b>Overall</b>	<b>105</b>	<b>21</b>	<b>69</b>	<b>30</b>	<b>23</b>	<b>2</b>

**Note:** Due to rounding, some percentages may not add to 100

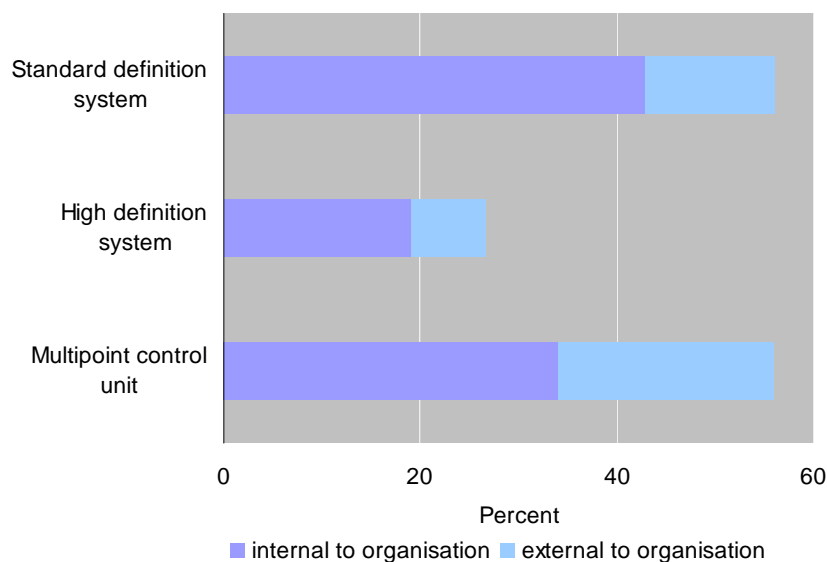
<sup>23</sup> Government organisations may use more than one video technology mode so percentages may add to more than 100

<sup>24</sup> Percentages are of all responding organisations in each size or type

<sup>25</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource Capability Survey, organisation websites, and the number of reported ICT users.

Fifty-six percent of the responding organisations (Table 13) used **standard definition** room-based systems, while 27 percent used **high-definition** room-based systems. In both cases, around three-quarters of the facilities were internal to the organisation and a quarter were from external suppliers.

Fifty-five percent of responding organisations used a **multipoint control unit** (MCU) to bridge their room-based or desktop videoconferencing connections. Sixty percent of these were internal to the organisation in question.



**Figure 10** Government room-based video technologies (30 June 2008)

Of organisations with internal facilities, in all cases around three-quarters were in principle willing and able to **share** them with other government organisations.

**Table 13** Government video technology type (30 June 2008)

Video technology <sup>26</sup>	Internal to organisation		External to organisation	Overall
	Sharable <sup>27</sup>	Not sharable		
Percent <sup>28</sup>				
Room-based standard definition (SD)	34	9	13	<b>56</b>
Room-based high definition (HD)	13	6	8	<b>27</b>
Multipoint control unit	24	10	22	<b>55</b>

**Note:** Due to rounding, some figures may not add to stated total

<sup>26</sup> Government organisations may use more than one video technology percentages may add to more than 100

<sup>27</sup> Whether in principle the organisation would be willing to share the facility with other government organisations

<sup>28</sup> Percentages are of all 105 responding organisations

## ICT staff

The number of reported **employed** full-time equivalent (FTE) ICT staff (Table 14) was not surprisingly higher for larger organisations. There tended to be a higher proportion of ICT staff to total staff in organisation types where most employees work on computers all day.

In all but the very largest organisations (more than 5000 employees), most organisations reported having between zero and 9 **contracted** FTE ICT staff.

Future collections will be able to provide insight into how these figures change over time in response to business demand.

**Table 14** Number of full time equivalent type ICT staff by organisations size (30 June 2008)

Staff type	Organisation size <sup>29</sup>	Total number of responding organisations	FTE ICT staff					non-response <sup>30</sup>
			0-9	10-49	50-99	100-199	200+	
			Percent <sup>31</sup>					
Employees	<50 employees	10	60	40	0	0	0	0
	50-99 employees	6	83	17	0	0	0	0
	100-499 employees	36	42	31	6	3	19	0
	500-999 employees	14	7	64	21	0	7	0
	1000-4999 employees	29	0	48	17	28	7	0
	5000 or more employees	10	0	0	20	30	50	0
<b>(Employees overall)</b>		<b>105</b>	<b>26</b>	<b>37</b>	<b>11</b>	<b>11</b>	<b>14</b>	<b>0</b>
Contracted staff	<50 employees	10	90	10	0	0	0	0
	50-99 employees	6	83	17	0	0	0	0
	100-499 employees	36	78	14	8	0	0	0
	500-999 employees	14	57	29	7	0	0	7
	1000-4999 employees	29	52	38	10	0	0	0
	5000 or more employees	10	20	60	20	0	0	0
<b>(Contracted staff overall)</b>		<b>105</b>	<b>64</b>	<b>27</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>1)</b>

**Note:** Due to rounding, percentages may not add to 100

<sup>29</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource Capability Survey, organisation websites, and the number of reported ICT users.

<sup>30</sup> Survey was completed but this particular question was not answered

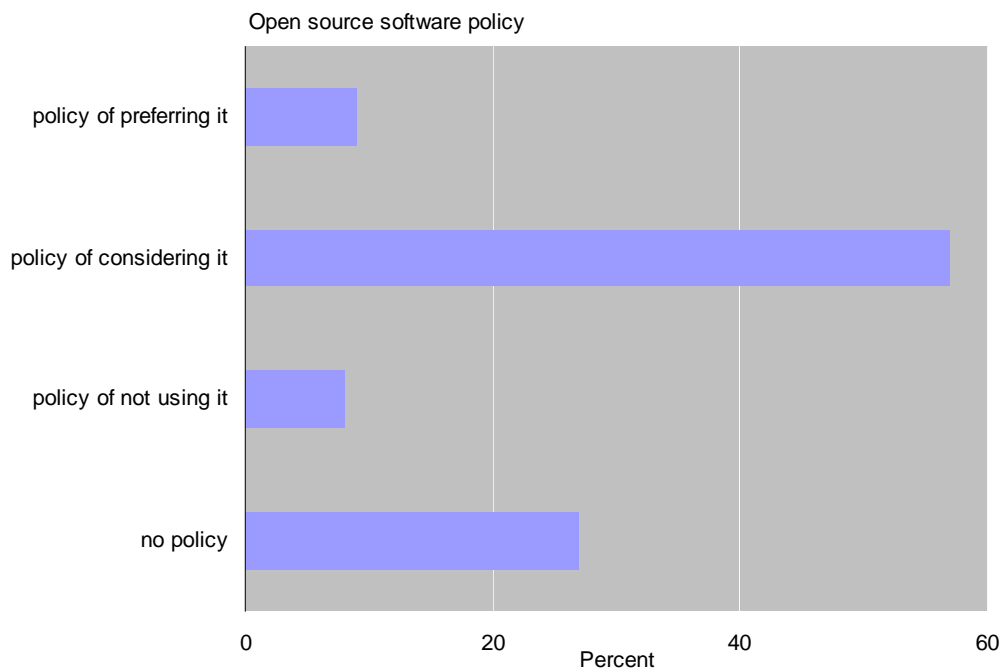
<sup>31</sup> Percentages are of all responding organisations in each organisation size or type

## Open source software

Open source software is generally licensed to allow free or very low cost access to the source code of the application, and free usage. Popular products usually have an active user/developer community that provides support and collectively improves the product. In many cases, support can also be purchased from commercial organisations.

Government organisations can potentially make significant savings on licence costs if their requirements can be met by open source products and have been encouraged<sup>32</sup> to assess open source software alternatives alongside commercial software when choosing software solutions.

Fifty-seven percent of organisations that responded to this survey reported that they had a **policy** of considering open source software and 8 percent had a policy of preferring it. A further 8 percent however, had a policy of not using it at all.



**Figure 11** Government open source software policy (30 June 2008)

<sup>32</sup> <http://www.e.govt.nz/policy/open-source>

**Table 15** Open source policy by organisation type and size (30 June 2008)

	Total number of responding organisations	Open source policy			
		no policy	policy of not using it	policy of considering it	policy of preferring it
		Percent <sup>33</sup>			
<b>Organisation size<sup>34</sup></b>					
<50 employees	10	45	0	55	0
50–99 employees	6	29	29	43	0
100–499 employees	36	25	3	61	11
500–999 employees	14	23	0	62	15
1000–4999 employees	29	32	14	46	7
5000 or more employees	10	0	10	80	10
<b>Organisation type</b>					
Central government	93	26	9	57	9
State owned enterprise	12	33	0	58	8
<b>Overall</b>	<b>105</b>	<b>27</b>	<b>8</b>	<b>57</b>	<b>9</b>

**Note:** Due to rounding, percentages may not add to 100

The reported actual **use of open source software** (Table 16) indicated that in more than half of responding organisations, up to 20 percent of servers had open source software. In more than a third of responding organisations, up to 20 percent of desktops had open source software other than operating system or ‘Office’ suite type software.

**Table 16** Government use of open source software (30 June 2008)

	Servers or desktops running open source software					
	none	<20 percent	20–80 percent	>80 percent	don't know	
		Percent <sup>35</sup>				
<b>Servers</b>						
Open source operating system	23	55	16	2	4	
Other open source software	24	60	9	3	5	
<b>Desktops</b>						
Open source operating system	76	18	2	0	4	
Open source ‘Office’ suite	78	15	0	1	6	
Other open source software	45	36	8	4	8	

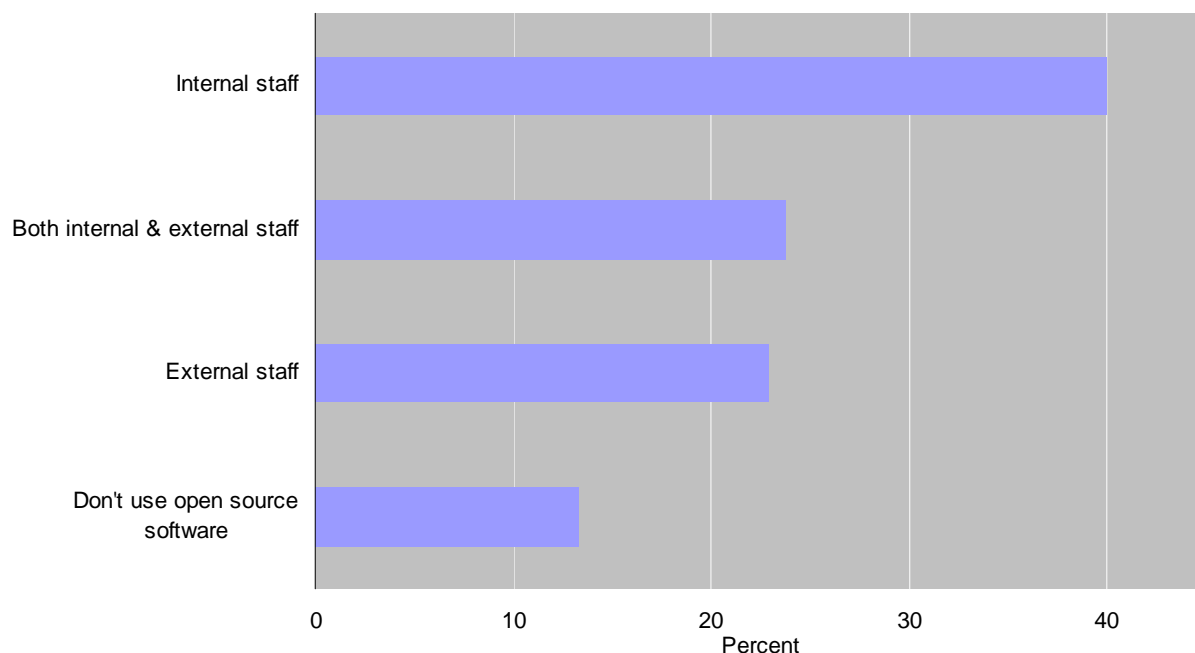
**Note:** Due to rounding, percentages may not add to 100

<sup>33</sup> Percentages are of all responding organisations in each organisation size or type

<sup>34</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource Capability Survey, organisation websites, and the number of reported ICT users.

<sup>35</sup> Percentages are of all 105 responding organisations

The availability of **support** can sometimes be seen as a barrier to the uptake of open source software. The survey data show that government organisations use a variety of support models. Most commonly, open source software is supported by internal staff (40 percent of organisations that responded), but others use both internal and external staff (24 percent) or exclusively external staff (23 percent). Larger organisations were more likely to use exclusively internal support staff and smaller organisations were more likely to use exclusively external support staff (Table 17).



**Figure 12** Government sources of open source software support (30 June 2008)

**Table 17** Sources of open source software support by organisation size (30 June 2008)

	Total number of responding organisations	Who supports open source software			
		internal staff	both internal & external staff	external staff	don't use open source software
		Percent <sup>36</sup>			
<b>Organisation size<sup>37</sup></b>					
<50 employees	10	20	0	50	30
50–99 employees	6	17	0	33	50
100–499 employees	36	39	33	22	6
500–999 employees	14	36	36	21	7
1000–4999 employees	29	52	14	17	17
5000 or more employees	10	50	40	10	0
<b>Organisation type</b>		40	24	23	13
Central government	93	40	23	24	14
State owned enterprise	12	42	33	17	8
<b>Overall</b>	<b>105</b>	<b>40</b>	<b>24</b>	<b>23</b>	<b>13</b>

**Note:** Due to rounding, some figures may not add to stated total

<sup>36</sup> Percentages are of all responding organisations in each organisation size or type

<sup>37</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource Capability Survey, organisation websites, and the number of reported ICT users.

Responding CIOs most commonly reported that **obtaining open source software support skills** was not difficult. Where they were able to answer the question, the most common response with respect to skills relating to internal staff, New Zealand vendors, overseas vendors, or the Internet community was ‘neither easy nor difficult’ (Table 18).

**Table 18** Government ease in obtaining open source support skills (30 June 2008)

	Ease in obtaining open source support skills			
	easy	neither easy nor difficult	difficult	don't know/ not applicable
	Percent <sup>35</sup>			
Internal staff	17	33	18	31
New Zealand vendors	12	37	11	39
Overseas vendors	8	23	4	66
Internet community	17	26	3	54

**Note:** Due to rounding, percentages may not add to 100

## Results: Networked State Services

### *Networked State Services goal indicators*

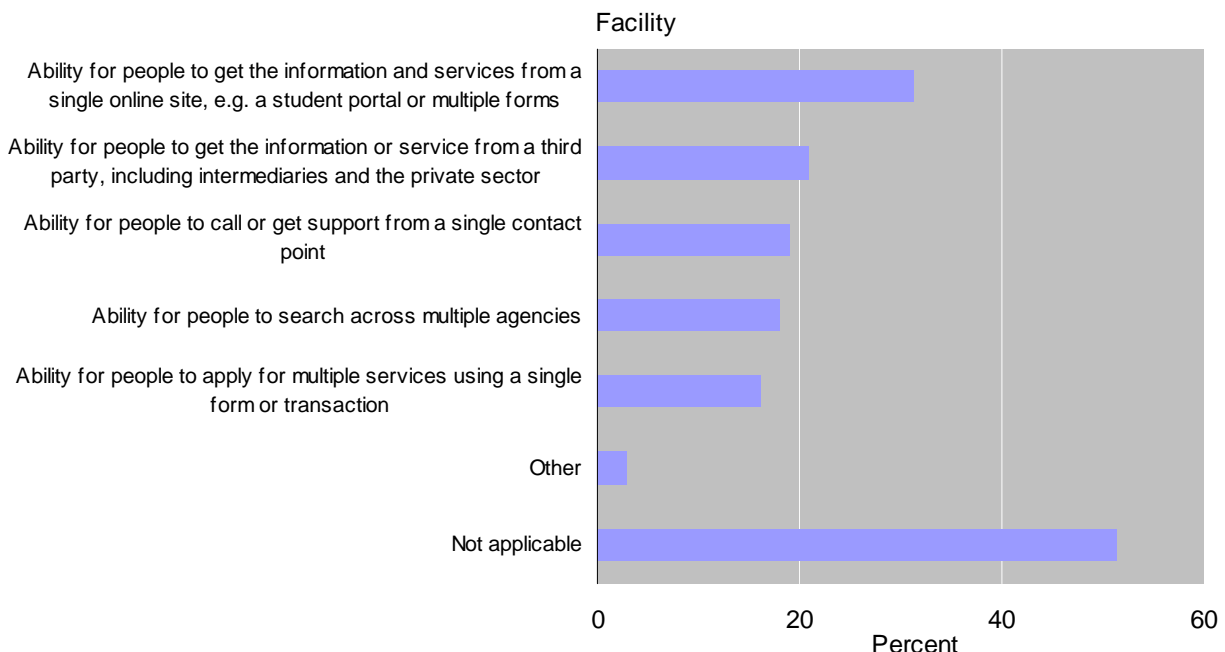
The Networked State Services Development Goal<sup>38</sup> is that technology should be used to transform the provision of services for New Zealanders so that the following indicators can be met:

1. Services/transactions are grouped, with technology applied, to allow an individual - from one place at the same time - to access multiple programmes.
2. Government transactions are synchronized across multiple channels - within an organisation or across government.
3. Technology supports a user having to give the same information to government only once.

The indicators also measure progress toward the E-government Strategy. In the Government use of ICT survey 2008, three survey questions directly explored each indicator.

With respect to the first indicator, 31 percent of responding CIOs reported that their organisations are developing or participating in facilities to enable people to get information and services from a single online site, such as a student portal or multiple forms (Table 19). Other types of facilities (such as for getting information from third parties, or being able to search across multiple agencies) were less commonly cited.

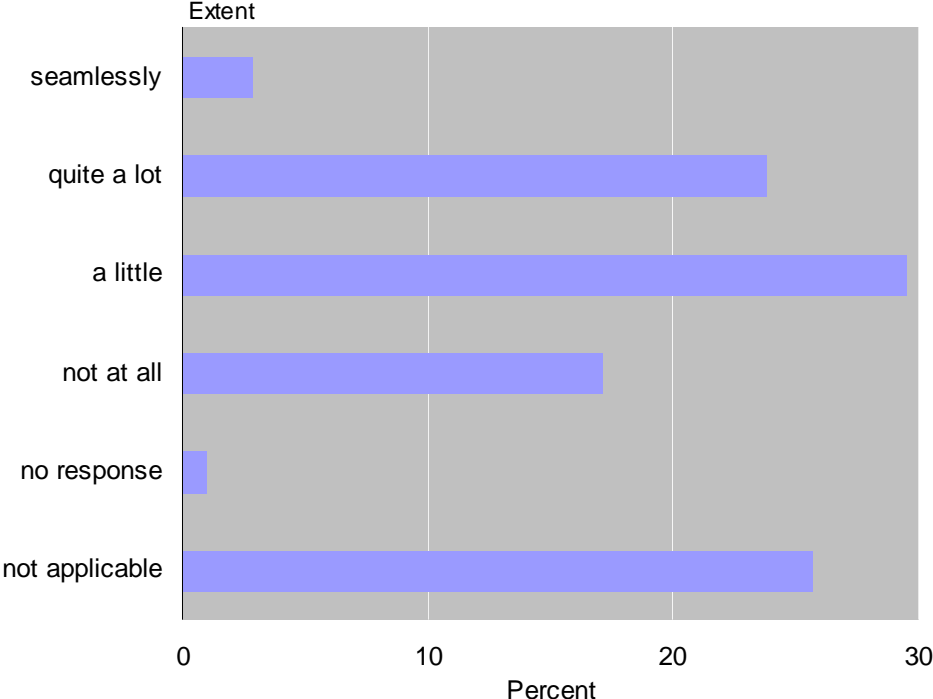
Noteworthy, however, is that only 49 percent of CIOs reported that their organisations were planning or participating in such facilities.



**Figure 13** Facilities organisations are developing or participating in to assist people whose need calls for information or services from multiple government organisations (30 June 2008). Government organisations may have named more than one facility so percentages may add to over 100.

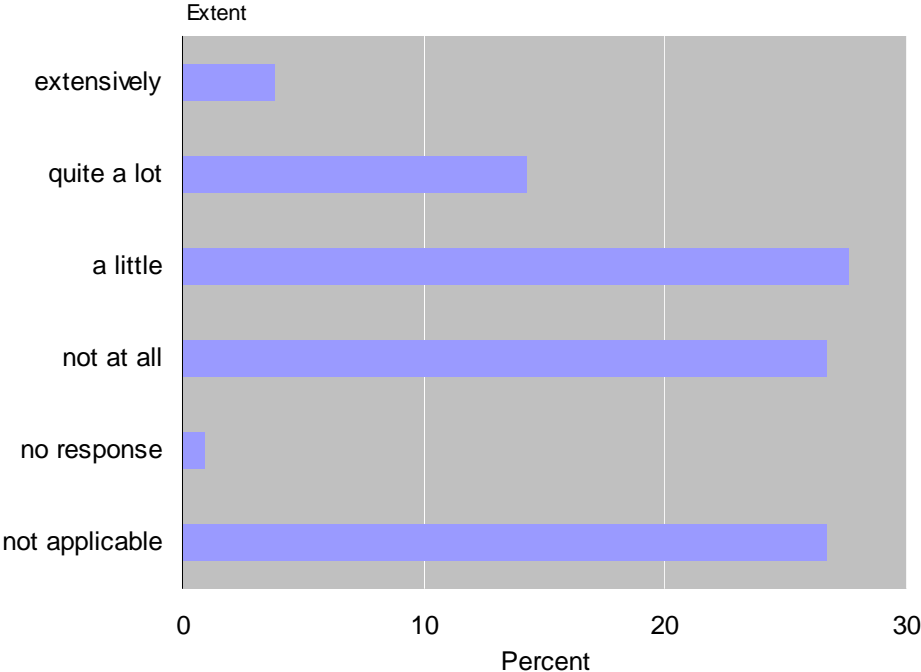
<sup>38</sup> <http://www.ssc.govt.nz/display/document.asp?DocID=6545>

With respect to the second Networked State Services Development Goal indicator around channel synchronization, 56 percent of responding CIOs indicated that their organisation’s ICT systems allow a person starting a transaction with one channel to complete the transaction using another channel (Table 19). Thirty percent indicated that this could be done ‘a little’, 24 percent ‘quite a lot’, and 3 percent ‘seamlessly’. However, the remaining 44 percent (‘not at all’, ‘not applicable’ or no response) probably do not allow for this.



**Figure 14** Extent to which ICT systems allow person starting a transaction with one channel to complete it in another (30 June 2008)

With respect to the third Networked State Services Development Goal indicator around data reuse, 46 percent of responding CIOs indicated that their organisations reuse information that a person has already provided to a government organisation rather than collecting that information from the person again (Table 19). Twenty-eight percent indicated that this was done ‘a little’, 14 percent ‘quite a lot’, and 4 percent ‘extensively’. However, the remaining 54 percent (‘not at all’, ‘not applicable’ or no response) probably do not reuse such information.



**Figure 15** Extent to which a person’s information is re-used (30 June 2008)

**Table 19** Indicators of ‘Networked State Services’ development goal, by organisation type (30 June 2008)

	Organisation type		Overall
	Central government	State owned enterprise	
Total number of responding organisations	93	12	<b>105</b>
Percent <sup>39</sup>			
<b>Facilities organisation is developing or participating in to assist people whose need calls for information or services from multiple government organisations<sup>40</sup></b>			
ability for people to get the information and services from a single online site, e.g. a student portal or multiple forms	34	8	<b>31</b>
ability for people to get the information or service from a third party, including intermediaries and the private sector	24	0	<b>21</b>
ability for people to call or get support from a single contact point	22	0	<b>19</b>
Ability for people to search across multiple agencies	20	0	<b>18</b>
ability for people to apply for multiple services using a single form or transaction	18	0	<b>16</b>
other	3	0	<b>3</b>
not applicable	47	83	<b>51</b>
<b>Extent to which the organisation’s ICT systems allow person starting a transaction with one channel to complete the transaction in another channel</b>			
seamlessly	2	8	<b>3</b>
quite a lot	24	25	<b>24</b>
a little	28	42	<b>30</b>
not at all	18	8	<b>17</b>
no response	1	0	<b>1</b>
not applicable	27	17	<b>26</b>
<b>Extent to which organisation re-uses information that a person has already provided to another government organisation rather than collecting that information from the person again</b>			
extensively	4	0	<b>4</b>
quite a lot	15	8	<b>14</b>
a little	30	8	<b>28</b>
not at all	27	25	<b>27</b>
no response	1	0	<b>1</b>
not applicable	23	58	<b>27</b>

**Note:** Due to rounding, percentages may not add to 100

<sup>39</sup> Percentages are of all responding organisations in each organisation type

<sup>40</sup> Government organisations may have named more than one facility of so percentages may add to over 100

## Standards

The New Zealand e-Government Interoperability Framework contains a number of standards designed to support collaboration and a common framework within government.

Between half to three-quarters of CIOs that responded to the survey were **aware** of the 13 **data exchange and security** standards they were asked about, depending on the standard in question.

The level of actual **deployment** of the standards however was much lower, varying between zero and 38 percent. The lowest deployment rates were amongst all the data exchange standards and those of the security standards that were developed by the New Zealand e-Government Interoperability Framework (e-GIF) programme.

Possible explanations for some standards having low uptake include their not being applicable to some organisations and the effect of implementation lead times on the uptake of newer standards.

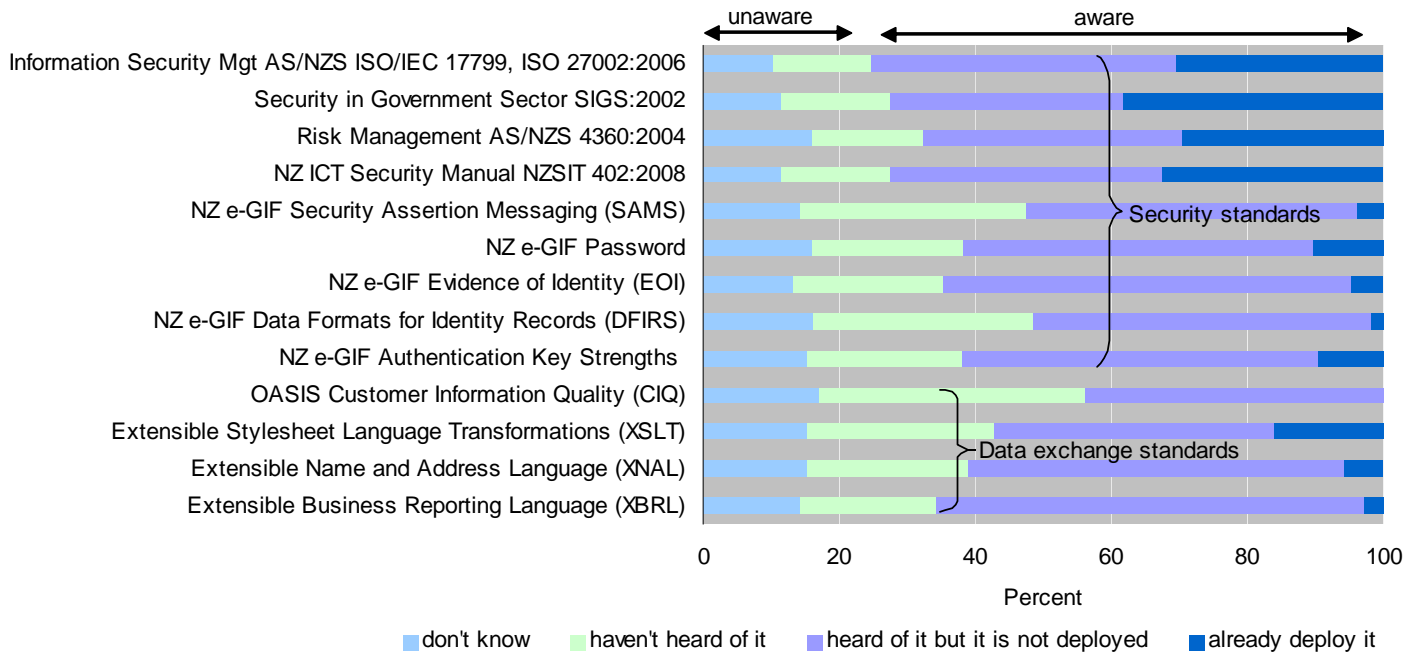


Figure 16 Government awareness and use of data exchange and security standards (30 June 2008)

**Table 20** Government awareness of security and data exchange standards (30 June 2008)

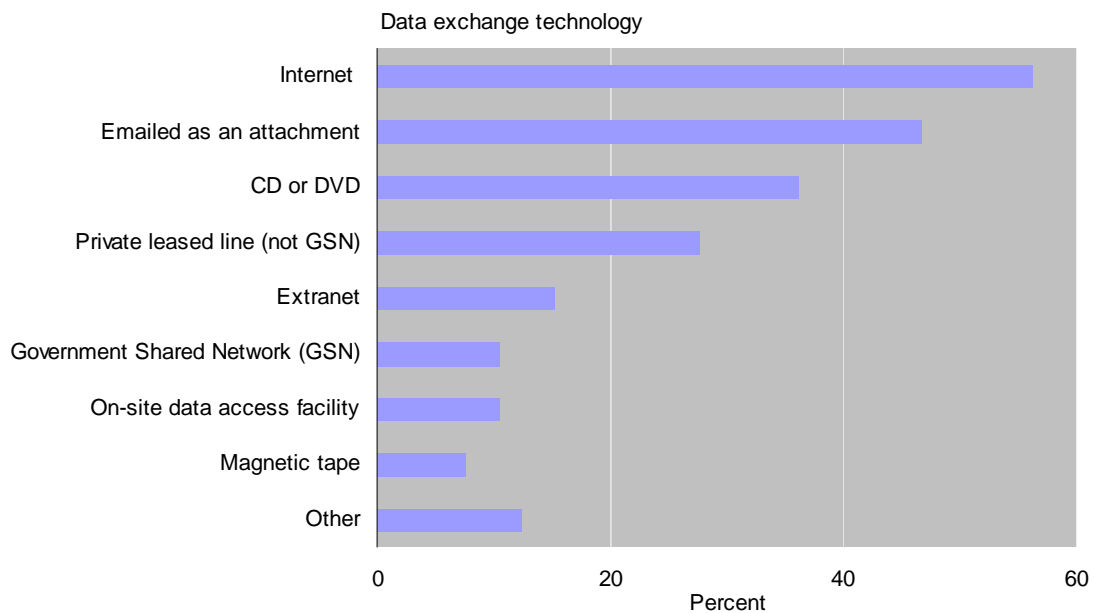
Standard	Awareness			
	don't know	haven't heard of it	heard of it but it is not deployed	already deploy it
	Percent <sup>41</sup>			
<b>Data exchange standards</b>				
Extensible Business Reporting Language (XBRL)	14	20	63	3
Extensible Name and Address Language (XNAL)	15	24	55	6
Extensible Stylesheet Language Transformations (XSLT)	15	28	41	16
OASIS Customer Information Quality (CIQ)	17	39	44	0
<b>Security standards</b>				
NZ e-GIF Authentication Key Strengths	15	23	52	10
NZ e-GIF Data Formats for Identity Records (DFIRS)	16	32	50	2
NZ e-GIF Evidence of Identity (EOI)	13	22	60	5
NZ e-GIF Password	16	22	51	10
NZ e-GIF Security Assertion Messaging (SAMS)	14	33	49	4
NZ ICT Security Manual NZSIT 402:2008	11	16	40	32
Risk Management AS/NZS 4360:2004 Security in Government Sector	16	16	38	30
SIGS:2002	11	16	34	38
Information Security Mgt AS/NZS ISO/IEC 17799, ISO 27002:2006	10	14	45	30

**Note:** Due to rounding, percentages may not add to 100

<sup>41</sup> Percentages are of all 105 responding organisations

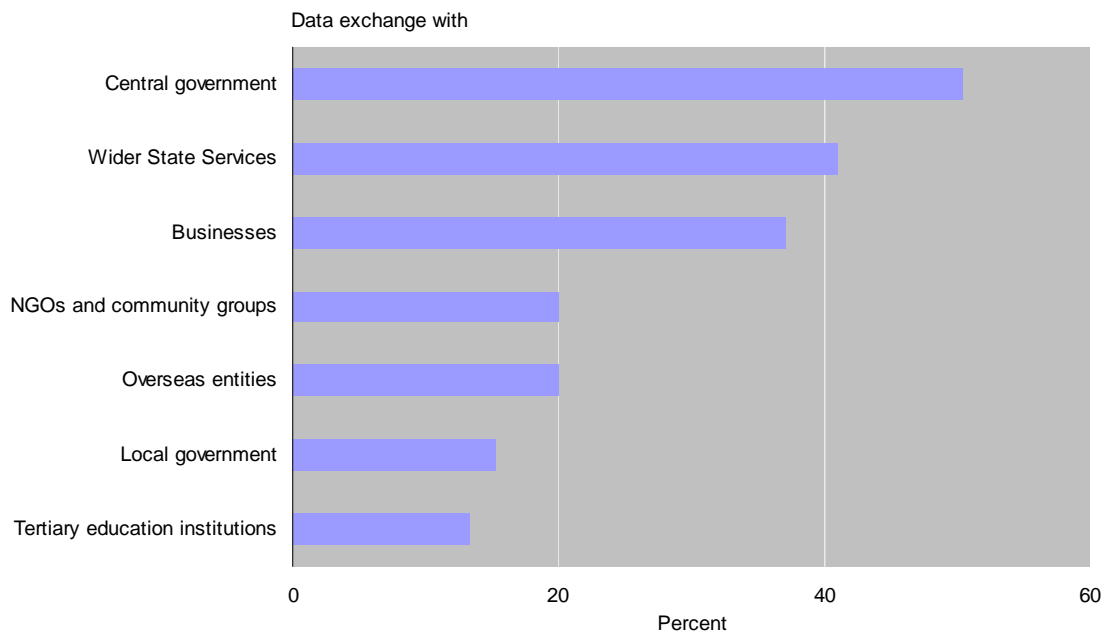
## Data exchange

The Internet was the most commonly reported technology used for **data exchange** (56 percent of responding organisations).



**Figure 17** Government data exchange technology (30 June 2008)

Organisations most commonly reported engaging in data exchange with central government (53 percent of organisations that responded) followed by the wider state services (41 percent).



**Figure 18** Types of organisation with which responding CIOs reported engaging in data exchange (30 June 2008)

The results demonstrate the predominance of network transfers over physical media such as CDs or magnetic tape. They also demonstrate the wide variety of organisations involved in data exchange with only about half involving central government.

**Table 21** Government data exchange, by organisation type (30 June 2008)

	Organisation type		Overall
	Central government	State-owned enterprise	
Total number of responding organisations	93	12	<b>105</b>
	Percent <sup>42</sup>		
Data exchange with other organisations within last 12 months	<b>71</b>	<b>100</b>	<b>74</b>
<b>Data exchange technology<sup>43</sup></b>			
Internet	52	92	<b>56</b>
Emailed as an attachment	42	83	<b>47</b>
CD or DVD	35	42	<b>36</b>
Private leased line (not GSN)	27	33	<b>28</b>
Extranet	14	25	<b>15</b>
Government Shared Network (GSN)	12	0	<b>10</b>
On-site data access facility	10	17	<b>10</b>
Magnetic tape	9	0	<b>8</b>
Other	13	8	<b>12</b>
<b>Data exchange with<sup>44</sup></b>			
Central government	53	33	<b>50</b>
Wider State Services	40	50	<b>41</b>
Businesses	30	92	<b>37</b>
NGOs and community groups	19	25	<b>20</b>
Overseas entities	19	25	<b>20</b>
Local government	13	33	<b>15</b>
Tertiary education institutions	12	25	<b>13</b>

**Note:** Due to rounding, figures may not add to stated total

<sup>42</sup> Percentages are of all responding organisations in each organisation type

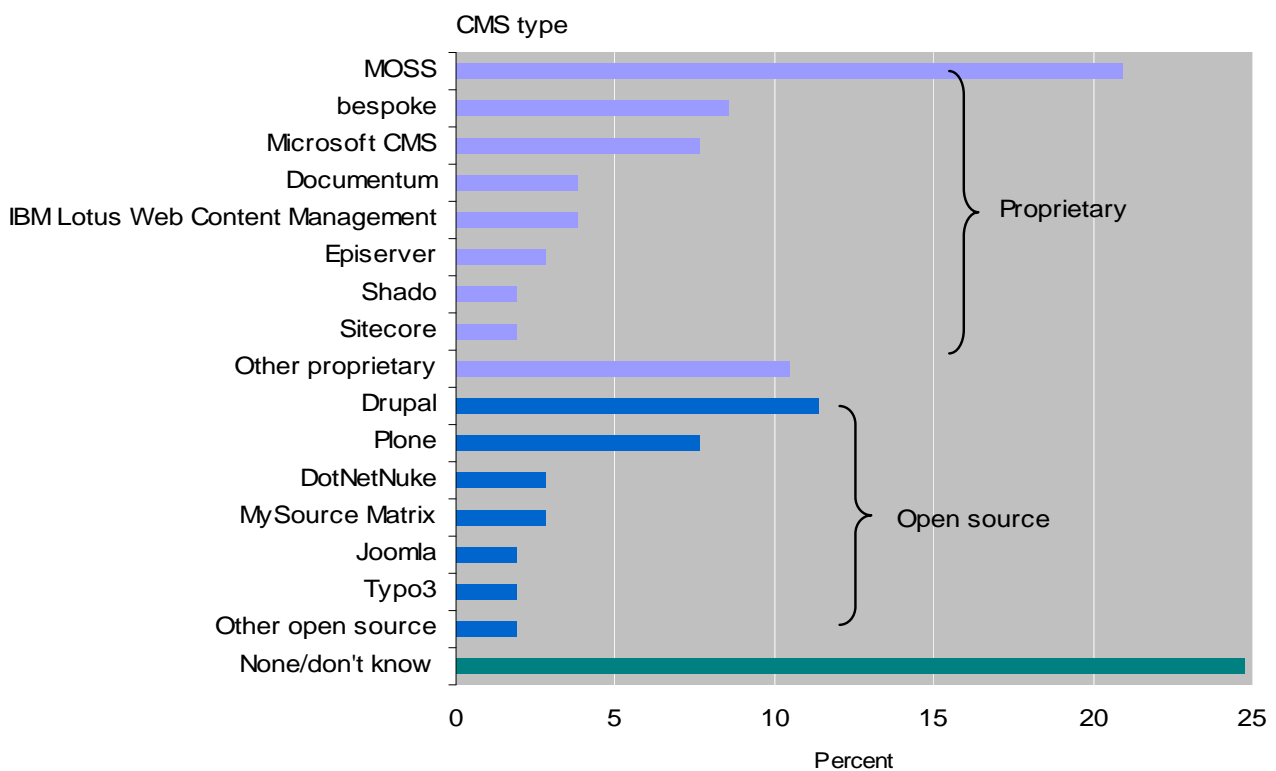
<sup>43</sup> Government organisations may use more than one data exchange technology so percentages may add to over 100 percent

<sup>44</sup> Government organisations may exchange data with more than one type of organisation so percentages may add to over 100 percent

## Data reuse

Content Management Systems (CMSs) are an important tool in managing the content that is available on the web and providing it in a reusable and archival form. The range of CMSs being used in gives some insight into government capability for managing web information in a coordinated way.

The most commonly reported CMS in this survey was the proprietary Microsoft Office SharePoint Server (MOSS) (21 percent of responding organisations), followed by the open source Drupal (11 percent of responding organisations). A wide range of CMSs was reported overall, which is potentially challenging to the consistent publishing of information in a reusable form across in the government domain.



**Figure 19** Government content management systems in use (30 June 2008). Government organizations may use more than one content management system so percentages may add to over 100 percent

**Table 22** Content Management System (CMS) type by organisation size (30 June 2008)

CMS type <sup>45</sup>	Organisation size						Overall
	<50 employees	50–99 employees	100–499 employees	500–999 employees	1000–4999 employees	5000 or more employees	
Total number of responding organisations <sup>46</sup>	10	6	36	14	29	10	<b>105</b>
	Percent <sup>47</sup>						
Open source CMS							
Drupal	0	17	22	7	7	0	<b>11</b>
Plone	10	0	14	0	7	0	<b>8</b>
DotNetNuke	0	17	3	0	0	10	<b>3</b>
MySource Matrix	10	0	0	7	0	10	<b>3</b>
Joomla	0	0	0	7	3	0	<b>2</b>
Typo3	0	0	6	0	0	0	<b>2</b>
Other open source CMS	10	0	0	7	0	0	<b>2</b>
(Open source CMS total)	30	33	44	29	17	20	<b>30)</b>
Proprietary CMS							
MOSS	10	0	14	36	21	50	<b>21</b>
Bespoke	0	0	11	21	7	0	<b>9</b>
Microsoft CMS	0	0	6	7	17	0	<b>8</b>
Documentum	0	0	6	7	3	0	<b>4</b>
IBM Lotus Web Content Management	0	0	3	0	3	20	<b>4</b>
Episerver	0	17	0	0	7	0	<b>3</b>
Shado	0	0	3	0	3	0	<b>2</b>
Sitecore	0	0	3	0	3	0	<b>2</b>
Other proprietary CMS <sup>48</sup>	10	0	6	0	21	20	<b>10</b>
(Proprietary CMS total)	20	17	50	71	86	90	<b>62)</b>
None/Don't know	40	67	22	29	21	0	<b>25</b>

**Note:** Due to rounding, some figures may not add to stated total

<sup>45</sup> Government organisations may use more than one CMS type so percentages may add to over 100 percent

<sup>46</sup> Number of employees is an estimate derived from a variety of sources including annual reports, the State Services Commission's Human Resource Capability Survey, organisation websites, and the number of reported ICT users.

<sup>47</sup> Percentages are of all responding organisations in each organisation size

<sup>48</sup> Total of CMSs named by only one respondent

## Technical notes

### ***Population***

From 2008, the Government Use of ICT Survey population comprises all State sector organisations in the Public Sector Directory (<http://www.psd.govt.nz/>) except those classified as Conservation Sector organisations (Fish and Game Council, Reserve Boards etc), School Boards of Trustees, Tertiary Education Institutions, and Trusts.

In 2008 this resulted in a total of 163 organisations in the population, comprising:

- Central government
  - Public Service Departments
  - Non Public Service Departments
  - Offices of Parliament
  - Autonomous Crown entities
  - Independent Crown entities
  - Other Crown entity companies
  - Crown agents
  - District Health Boards
  - Other Public Finance Act 4th schedule organisations
  - Reserve Bank
  - Crown research institutes
- State-owned enterprises.

All organisations were invited to participate in the survey with the exception of five very small (less than about 5 employees) organisations which were excluded for respondent burden reasons.

### ***Response rate***

Particular effort was made to obtain responses from larger organisations in the population, resulting in a response rate varying from 22 percent for organisations with less than 50 employees, up to 95 percent for organisations with over 1000 employees. The overall response rate was 64 percent.

### ***Data collection***

The survey comprised an online questionnaire constructed using the open source software LimeSurvey (<http://www.limesurvey.org>). A printed version of the questionnaire was supplied to the few respondents who requested this method.

### ***Collection frequency***

From 2008, the Government Use of ICT Survey is expected to be an annual collection.

### ***Imputation***

Imputation was used to obtain data in cases of non-response for the questions regarding ICT operating expenditure and ICT capital expenditure only. All other data is simply reported for the responding 105 organisations.

For expenditure, four imputation methods were used depending on the organisation type, to take advantage of the different expenditure characteristics of each organization type. For each of operating and capital expenditure:

- Non-responding District Health Boards (DHBs): Linear regression fit to responses versus population served.
- Non responding Crown Research Institutes (CRIs): Weighted mean (weight = number of employees determined a priori through published figures).
- Non-responding energy companies: Weighted mean (weight=number of employees).
- Other non-responding organisations (all less than 1000 employees): After removal of outliers, CRIs, DHBs, energy companies, and organisations with more than 1500 employees, linear regression fit to responses versus number of employees.

### **Non-sample errors**

These cannot be quantified and could include mistakes by respondents, variation in interpretation of questions, and data processing errors. Additionally, survey respondents were CIOs or the equivalent role in the organisation who may not have complete knowledge of all IT and business matters explored in the questionnaire. In particular, in many organisations much IT activity occurs within individual business units and may not be visible to the CIO role.

### **Comparison with Government Use of ICT Survey 2006**

This survey has some questions in common with Statistics New Zealand’s Government Use of ICT Survey 2006. Nevertheless, the populations are different and (with the exception of two expenditure questions) imputation for non-response has not been performed in this survey yet was in 2006. Therefore, caution should be taken in comparing and inferring change over time. The major differences are shown in this table:

	Government Use of ICT survey 2006 (Statistics New Zealand)	Government Use of ICT survey 2008 (State Services Commission)
Imputation for non-response	All questions	Operating & capital expenditure only
Imputation methodology	Differs	
Population	315 organisations	163 organisations
Local government	✓	✗
Tertiary education	✓	✗
State owned enterprise	✗	✓
Crown Research Institutes	✓	✓
	(as separate category)	(included under ‘central government’)

Note that it is possible to perform some limited longitudinal comparison of operating and capital expenditure for the core population in common with Statistics New Zealand’s Government Use of ICT Survey 2006. The combined population for the categories ‘Central government’ plus ‘Crown research institutes’ in the 2006 survey correspond approximately to the population for ‘Central government’ in this work.