

The Auditor-General

Audit Report No.18 1999–2000

Performance Audit

**Electronic Service Delivery,  
including Internet Use,  
by Commonwealth Government Agencies**

Australian National Audit Office

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Canberra ACT  
15 November 1999

Dear Madam President  
Dear Mr Speaker

The Australian National Audit Office has undertaken an across-agency performance audit in accordance with the authority contained in the *Auditor-General Act 1997*. I present this report of this audit, and the accompanying brochure, to the Parliament. The report is titled *Electronic Service Delivery, including Internet Use, by Commonwealth Government Agencies*.

Following its tabling in Parliament, the report will be placed on the Australian National Audit Office's Homepage—  
<http://www.anao.gov.au>.

Yours sincerely



P. J. Barrett  
Auditor-General

The Honourable the President of the Senate  
The Honourable the Speaker of the House of Representatives  
Parliament House  
Canberra ACT

## **AUDITING FOR AUSTRALIA**

The Auditor-General is head of the Australian National Audit Office. The ANAO assists the Auditor-General to carry out his duties under the *Auditor-General Act 1997* to undertake performance audits and financial statement audits of Commonwealth public sector bodies and to provide independent reports and advice for the Parliament, the Government and the community. The aim is to improve Commonwealth public sector administration and accountability.

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### **Audit Team**

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# Abbreviations

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ACS	Australian Customs Service
ANAO	Australian National Audit Office
AQIS	Australian Quarantine Inspection Service
ATM	Automatic Teller Machine
ATO	Australian Taxation Office
CAC Act	<i>Commonwealth Authorities and Companies Act</i>
Centrelink	Commonwealth Service Delivery Agency
DETYA	Department of Education, Training and Youth Affairs
DEWRSB	Department of Employment, Workplace Relations and Small Business
DFCS	Department of Family and Community Services
EDI	Electronic Data Interchange
EFT	Electronic Funds Transfer
EFTPOS	EFT at Point of Sale
FMA Act	<i>Financial Management and Accountability Act 1997</i>
GPKI	Government Public Key Infrastructure
IVR	Interactive Voice Response
OGO	Office for Government Online
PKI	Public Key Infrastructure
PSMPC	Public Service and Merit Protection Commission

# Glossary

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Internet	A world-wide electronic linking of computers. The Internet provides services such as electronic mail (e-mail), access to information stored on the linked computers and online banking, amongst many others.
Intranet	An Internet-style service where access is restricted to the confines of the Organisation. In the context of this report, the 'Organisation' is an individual agency, as referred to in the survey.
Extranet	An Extranet is a hybrid of an Internet and an Intranet.
e-Commerce	e-Commerce or electronic commerce may be defined as two or more entities' (individuals or organisations) conducting business using electronic methods and procedures.
Electronic Service Delivery (ESD)	This term describes the use of electronic technology to deliver services. The essential characteristic of ESD is the way client and service provider (agency) are linked—electronically. Examples include the Internet, EFT, smart cards, EFTPOS and electronic kiosks.
Smart cards	Mainly characterised by placing an integrated circuit on to a credit card sized medium that can store and process much more information than is available on a normal credit card.
Electronic Cash	Like smart cards, electronic-cash systems envisage the ability to download money on to a card sized medium. As with phone cards, which are in common use in Australia, the electronic cash card can record the 'spending' of cash and reduce the balance on the card progressively.
Electronic Kiosk	An electronic kiosk is a computer terminal, generally available publicly, which allows the user to conduct business electronically.
PKI/PKT	Public Key Infrastructure/Technology uses technology to encrypt, decrypt and verify data.
Website	An organisation's own Internet presence, published through an Internet server.
Y2K	Year 2000.

# Summary and Recommendations



# Summary

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## **Delivery of government services electronically and predominantly on the Internet**

1. Government service delivery through the Internet presents both significant opportunities and challenges in the delivery of on-line services. Depending on the level of sophistication of the application, the Internet allows Commonwealth agencies to publish information, interact with clients in the exchange of information, and/or transact business electronically. For most agencies, the Internet has the potential to:

- improve public access to a wide range of government services, especially by people who live in regional and remote areas;
- provide access to certain government services 24 hours a day, seven days a week;
- reduce the cost of delivery of some government services; and
- improve the quality of certain government services.

2. On 8 December 1997, the Prime Minister announced the Government's *Investing for Growth* policy statement, which outlined new measures to further encourage innovation, investment, exports, development of technologically innovative industries and the growth of Australia as a financial centre. The measures were designed to enhance prospects of growth and strengthen Australian industries' capacity by, among other things, helping to ensure that business, the community and all tiers of government maximised opportunities to add to and benefit from the global information age.

3. The statement announced an Information Industries Action Agenda to foster development of information technology industries. Significantly, the statement included a plan to establish the Commonwealth as a leading-edge user of technology, including establishing a Government Information Centre and committing to all appropriate services being Internet-deliverable by 2001. Internet services were to complement—not replace—existing written, telephone, fax and counter services, and to greatly improve the quality, user-friendliness and consistency of those services.

4. Use of the Internet has grown enormously in recent years. Several government agencies that currently use private or proprietary government networks for electronic service delivery, are considering using the Internet instead, or as an alternative. In view of the present and growing

importance of the Internet for conduct of business and provision of information, the ANAO focused its audit coverage on its use for service delivery in the public sector. The principles that lie behind recommendations in this report apply also to other forms of electronic service delivery (see Figure 2.4) and their application.

## Audit objectives and scope

5. The over-all audit objective was to determine Commonwealth agencies' preparedness to achieve the Government's goal of all appropriate services being Internet-deliverable by 2001. The audit sought to assess:

- the extent to which agencies considered that they would be able to achieve that goal;
- what type of services agencies were delivering or planning to deliver on the Internet; and
- whether agencies had identified barriers and possible solutions to that delivery.

6. The ANAO surveyed the 66 Commonwealth agencies to which the *Financial Management and Accountability (FMA) Act 1997* applies, that is 14 departments and 52 other agencies, as a basis for determining an audit opinion.

## Audit conclusions

7. The ANAO concluded that the majority of agencies were well positioned to meet the Government's commitment to deliver appropriate services on the Internet by 2001.

8. Overall, the survey indicated that:

- 82 per cent of responding agencies considered that they would meet the Government's commitment;
- most agencies had identified services considered appropriate for the Internet, although some had difficulty in doing so. This difficulty stemmed, in part, from guidelines not being developed on the best way to identify services appropriate for Internet delivery;
- there are significant impediments to Government agencies' increased use of the Internet, including legislation that currently mandates documents rather than allowing for electronic formats, IT skill shortages, data security and privacy; and
- services to be delivered through the Internet included client-service information and support, procurement, payments to suppliers, receipt

of revenue, public relations and advertising, and general use of online service delivery.

**9.** Experience gained to date by agencies surveyed suggests that it is good practice for individual agencies to:

- review their legislation as soon as possible to identify any barriers to Internet or other electronic service delivery, for example, legislation mandating documents;
- identify and assess the costs and benefits of reliance on the Internet to deliver services. This is particularly relevant because the Government has given a commitment to continuing existing written, telephone, fax and counter services;
- have in place appropriate privacy and data security policies for their Internet sites;
- monitor and evaluate their service delivery via the Internet to allow for continuous improvement;
- take into account any associated legal liability for government, including, for example, liabilities arising from incorrect or misleading information published on an agency's Internet site; and
- ensure that increases in electronic interaction with supplier and business groups are accompanied by a commensurate reassessment of agency risks and control strategies.

**10.** Although the survey did not address business process re-engineering, the ANAO considers there is likely to be a good business case for agencies to re-assess the way they perform their functions and provide outputs for identified outcomes using electronic service delivery. Agencies need to address these considerations in the context of their client service charters and strategic planning.

**11.** Survey results suggest that the Office for Government Online is in a good position to:

- assist agencies by providing information and promoting best practice in service delivery by means of the Internet;
- promote best practice in agencies' monitoring and evaluation of their use of the Internet to deliver government services and programs;
- issue guidelines on how agencies can address data security problems, especially through Public Key Infrastructure (described below); and
- consult agencies about how it can best help them through, for example, private sector involvement in delivery of services through the Internet.

## Key findings

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**12.** More than 91 per cent of responding agencies had an Internet Website, which is an important part of the foundation for service delivery using the Internet.

**13.** The ANAO identified four stages of Internet service delivery. Agency initiatives to be in place by 2001 were grouped into these four stages:

- 52 per cent would be at Stage 1, at which an agency had a Website that published information about itself and its services;
- 25 per cent would be at Stage 2, at which an agency allows Internet users to access the agency database(s), and to browse, explore and interact with that data;
- 21 per cent would be at Stage 3, at which an agency allows users access as in Stages 1 and 2 and also permits them to enter secure information, and engage in transactions with the agency; and
- 2 per cent would be at Stage 4, at which, in addition to the level of access permitted at Stage 3, the agency, with the user's prior approval, shares with other government agencies' relevant information provided by that user with a view to providing a whole-of-government integrated service.

**14.** It is not expected that all, or even most, agencies will proceed beyond the early stages, and the ANAO is not in a position to determine what percentage of agencies should be at each stage. The ANAO found that agency functions will be a key factor in determining the stage at which the agency should be providing effective forms of Internet service delivery. Where an agency has no public databases and simply provides information and publications to the public, stage one may be appropriate. In all cases management, for business reasons, should take agency decisions on which stage of Internet service delivery is most appropriate for effective provision of its identified outputs and outcomes.

**15.** The survey identified the following key impediments to agencies' use of electronic service delivery:

- agency-specific legislation, which directly affected 30 per cent of agencies;
- shortage of appropriate IT skills, which also affected 30 per cent;

- data security and privacy issues, which were of most concern to agencies, affecting 53 per cent. A particular security issue was Public Key Infrastructure (PKI), affecting 44 per cent. Public Key Infrastructure uses technology to encrypt, decrypt and verify data. It is crucial to agencies whose initiatives involve transactions that carry significant actual, or potential, financial and legal implications. Advice from OGO was that, from their discussions with agencies, agencies are not yet ready to use the technology but were concerned it may be a future impediment.

## Agency responses to the report

### Office for Government Online response

16. OGO stated that:

*The report findings are consistent with (OGO's) own information about electronic service delivery in Commonwealth agencies.*

### Public Service and Merit Protection Commission response

17. The Commission responded that:

*The report is timely and topical and contributes to our understanding of Commonwealth agencies preparedness to achieve the Government's goal of all appropriate services being Internet-deliverable by 2001.*

# Recommendations

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- Recommendation No.1**  
**Para. 4.45**
- The ANAO recommends that individual agencies:
- review their legislation as early as possible to identify any barriers to the use of the Internet for service delivery;
  - identify and assess the costs and benefits of reliance on the Internet to deliver government services;
  - ensure they have appropriate privacy and data security policies and practices in place for their Internet sites;
  - monitor and evaluate their service delivery via the Internet to make continuous improvements;
  - take appropriate action to identify and minimise any associated legal liability for government, such as might be created if incorrect or misleading information on an agency's Internet site led to a user's financial loss; and
  - reassess their risks and related control strategies as the organisation increases its use of the Internet and other forms of electronic service delivery mechanisms.

**Recommendation No.2**  
**Para. 4.46**

The ANAO recommends that the Office for Government Online consult proactively with agencies on how it can best assist them to deliver services through the Internet. Options to explore include provision of information on how best to address impediments, facilitation of involvement of the private sector on a cost-effective basis, promotion of better practice on service delivery, and evaluation of Internet usage.

***Office for Government Online response:*** Agreed.

# Audit Findings and Conclusions



# 1. Introduction

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*This Chapter outlines the rationale, approach and methodology for this performance audit of Commonwealth agencies' preparedness to deliver services through the Internet.*

## Background

**1.1** Government service delivery through the Internet presents both significant opportunities and challenges in the delivery of on-line services<sup>1</sup>. Depending on the level of sophistication of the application, the Internet allows Commonwealth agencies to publish information, interact with clients in the exchange of information, and/or transact business electronically. For most agencies, the Internet has the potential to:

- improve public access to a wide range of government services, especially by people who live in regional and remote areas;
- provide access to certain government services 24 hours a day, seven days a week;
- reduce the cost of delivery of some government services; and
- improve the quality of certain government services.

**1.2** The Auditor-General's performance audit strategy for 1997–98 outlined the intention to conduct a performance audit of electronic commerce in that financial year. In 1998, the Joint Committee of Public Accounts and Audit issued its report *Internet Commerce—To Buy or Not to Buy?*<sup>2</sup> The report recommended that:

*The Auditor-General should conduct a multi-agency performance audit, during 1999, of the efficiency and effectiveness of government service provision through the Internet, taking account of, but not limited to:*

- (a) the effectiveness of measures to provide security and privacy; and*
- (b) strategies for ensuring access and equity.*

**1.3** Against this background, the Auditor-General decided to conduct a performance audit, through a survey of Commonwealth agencies, to determine whether and how they were progressing in achieving the Government's goal of committing to all appropriate services' being

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<sup>1</sup> Appendix 1 provides a brief background to the delivery of services electronically by the Commonwealth Government.

<sup>2</sup> Joint Committee of Public Accounts and Audit, *Internet Commerce—To Buy or Not to Buy?* Report No.36, 24 June 1998, Commonwealth of Australia, Canberra.

deliverable on the Internet by 2001. Although the ANAO focused its audit coverage on Internet service delivery, the principles that lie behind recommendations in this report also apply to other forms of electronic service delivery (see Figure 2.4) and their application.

**1.4** On 8 December 1997, the Prime Minister announced the Government's *Investing for Growth* policy statement<sup>3</sup>, which outlined incentives for innovation, investment, exports, the development of technologically innovative industries and the growth of Australia as a financial centre. The initiatives were designed to enhance the prospects of growth and strengthen the capacity of Australian industries by:

- increasing support for business research and development, and marketing it;
- making investment in Australia more attractive;
- building Australia's strength as a trading nation;
- making Australia increasingly attractive as a financial centre; and
- helping to ensure that business, the community and all tiers of government maximised the opportunities to add to and benefit from the global information age.

**1.5** The statement announced an Information Industries Action Agenda to foster development of information-technology industries. Significantly, it included a plan to establish the Commonwealth as a leading-edge user of technology, including establishing a Government Information Centre<sup>4</sup> and committing to all appropriate services being deliverable on the Internet by 2001. Internet services were to complement, not replace, existing written, telephone, fax and counter services, and to greatly improve the quality, user friendliness and consistency of those services.

**1.6** Use of the Internet has grown enormously in recent years. Several government agencies that currently use private or proprietary government networks for electronic service delivery, are considering using the Internet instead, or as an alternative.

**1.7** The Office for Government Online is responsible for a whole-of-government approach to using information technology and telecommunications in the public sector, and it is charged with a number of key initiatives arising from the Government's *Investing for Growth* statement. OGO wished to use the results of the survey to help it

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<sup>3</sup> *Investing for Growth. The Howard Government's Plan for Australian Industry*, Commonwealth of Australia, Canberra, 1997, <http://www.disr.gov.au/growth/>

<sup>4</sup> A Government Information Centre is being piloted in Tasmania as a call centre.

discharge part of its responsibility for monitoring progress toward the Government's goal. The ANAO asked agencies' permission for OGO to use those results and 40 of the 51 that submitted responses gave permission.

**1.8** The Attorney-General's Department has carriage of the *Electronic Transactions Bill* that, once passed, will provide legislative support for much of the Commonwealth's electronic commerce, Internet and electronic service delivery. The ANAO asked, on behalf of the Attorney-General's Department, whether the seven agencies interviewed on receipt of their completed questionnaires would agree to their responses' being made available to the Department. All seven agreed.

**1.9** The Commonwealth Government is not the only level of government moving in this direction. The Victorian Government is giving priority to the objective of delivering all government services electronically by 2001<sup>5</sup>. The European Commission has set a target of transacting 25 per cent of public procurement by 2003. The UK Government has announced a target of procuring 90 per cent by volume of routine goods electronically by 2000–2001, and making 25 per cent of government services available online by 2001<sup>6</sup>, 50 per cent by 2005 and 100 per cent by 2008<sup>7</sup>.

## Audit objectives and scope

**1.10** The over-all audit objective was to determine Commonwealth agencies' preparedness to achieve the Government's goal. The audit sought to assess:

- the extent to which agencies considered that they would be able to achieve that goal;
- what type of services agencies were delivering or planning to deliver on the Internet; and
- whether agencies had identified barriers and possible solutions to that delivery.

**1.11** The ANAO surveyed the 66 Commonwealth agencies to which the *Financial Management and Accountability (FMA) Act 1997* applies, that is 14 departments and 52 other agencies, as a basis for determining an audit opinion.

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<sup>5</sup> Department of Premier and Cabinet 1998, *Online Service Delivery*, August 1998. <http://www.mmv.vic.gov.au>

<sup>6</sup> Department of Trade and Industry 1998, *net benefit : the electronic commerce agenda for the UK*, October 1998. <http://www.dti.gov.uk/cii/ecom.htm>

<sup>7</sup> *Modernising Government*. U.K. Government White Paper, March 1999. <http://www.citu.gov.uk/moderngov.htm>

**1.12** The Government expected 'appropriate' services to be delivered via the Internet. It was a matter for agencies to determine which of their services could be deemed to be appropriate. As agencies were not expected to abandon other cost-effective forms of electronic service delivery, the survey collected data on all forms of electronic service delivery.

## **Audit criteria**

**1.13** The criteria for this performance audit were based on whether agencies had identified:

- processes by which the opportunities for Internet service delivery are identified;
- factors suggesting benefits in moving to Internet service delivery; and
- barriers to its partial or complete implementation.

## **Audit methodology**

**1.14** The ANAO established an advisory committee consisting of representatives of coordinating, expenditure and revenue agencies with an interest in or experience of electronic commerce or electronic service delivery, including:

- Office for Government Online (OGO);
- Australian Taxation Office (ATO);
- Australian Customs Service;
- Department of Employment, Workplace Relations and Small Business (DEWRSB);
- the Health Insurance Commission; and
- the Attorney-General's Department.

**1.15** The committee's role was to guide the audit; help interpret the results of the agency survey; and advise the ANAO on the contents of its report to Parliament.

**1.16** To obtain appropriate expertise in the design of a survey with a strong IT component, the Audit Office invited tenders to develop the questionnaire, conduct the survey and prepare an issues paper based on its results. KPMG Management Consulting was engaged for the task.

**1.17** To improve the usefulness of agencies' accounts of their initiatives, the questionnaire was designed so that data on those initiatives were associated in the questionnaire with their descriptions of their major budgeted outcomes and outputs. The latter were defined in the

Department of Finance and Administration's (DoFA) *Specifying Outcomes and Outputs* accrual-budgeting implementation guidelines. The ANAO invited agencies to have their survey responses signed by SES officers as assurances of the reliability of responses.

**1.18** The survey excluded electronic payments and receipts for which computer systems other than those linked with the Internet were used. The volume of such payments and receipts is very large. For instance, in 1999–2000, the latter include most of the approximately \$48.1 billion in payments made electronically into the bank accounts of pensioners and other recipients of benefits, as well as \$41.7 billion paid electronically (by direct debit/credit) to the Australian Taxation Office in the 10 months to April 1999.

**1.19** Of the 66 FMA agencies, eight were classified as large, given the size of their outlays or revenue or the importance of their regulatory roles. The latter covered:

- the Department of Health and Aged Care;
- the Department of Veterans' Affairs;
- the Department of Employment, Workplace Relations and Small Business;
- the Department of Education, Training and Youth Affairs;
- the Department of Family and Community Services;
- Centrelink;
- the Australian Taxation Office; and
- the Australian Customs Service.

**1.20** For 1999–2000, these large agencies will receive a total appropriation in departmental expenses and administered funds of \$98 billion, and an estimated total revenue of \$145 billion.

**1.21** Each agency was asked to attach the latest versions of the following documents to the completed survey questionnaire:

- annual report;
- corporate plan;
- corporate IT plan; and
- electronic service-delivery plans, if available.

**1.22** Those documents were analysed to better understand the nature of agencies' strategic initiatives. From the number that responded to the questionnaire, the audit team conducted interviews with seven agencies, selected on the basis of their operational or policy roles in electronic service delivery, to gain further assurance that the survey questions were understood and the answers reflected the agencies' views.

**1.23** By 30 May 1999, 51 of the 66 agencies had returned their questionnaires, representing a 77 per cent response rate, a more than satisfactory outcome. Appendix 2 lists responding and non-responding agencies.

**1.24** The five Parliamentary Departments provided a single unified response. Therefore, statistics for analysis were generally completed for 47 responses. However, some agencies did not complete all questions.

**1.25** The audit was conducted in conformance with ANAO Auditing Standards and cost approximately \$305 000.

## 2. Internet Service Delivery Today

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*This Chapter reports on whether agencies have identified services suitable for Internet service delivery, what importance they assign to the Internet for this purpose, and what technologies are likely to be used. It also deals with some aspects of their Websites, such as their incidence, usage and monitoring.*

**2.1** As indicated earlier, the ANAO focused the audit on service delivery through the Internet. Other means of electronic service delivery are referred to where appropriate.

### Have agencies identified Internet opportunities?

**2.2** The survey asked whether agencies considered that they had identified opportunities for delivering services through the Internet and other electronic delivery mechanisms. The survey showed that:

- 93 per cent of responding agencies indicated that they had already considered possible Internet initiatives;
- 89 per cent stated that they had identified initiatives across the whole organisation; and
- 82 per cent affirmed that they would achieve their part of the year 2001 goal.

**2.3** Overall, these responses, with information from follow-up interviews, suggested that agencies had little difficulty in identifying possible Internet initiatives. The question of the appropriateness of the services selected for Internet delivery is discussed in Chapter 3.

**2.4** A small number of agencies said they were not likely to meet the 2001 goal. Of the 13 reasons given for this assessment, five related to security, four to logistics, two to business cases and two to technology factors.

**2.5** Ideally, agency planning for Internet use should include planning for monitoring and performance evaluation. Effective planning would enable agencies to begin to monitor the effectiveness and efficiency of that use as soon as they rely on that medium. The resulting data could be used by agencies to improve service delivery in the same way as comparable data on more conventional means of program administration could be used to improve it. Agencies' review of reliance on the Internet for program delivery is also warranted because Internet service delivery is not necessarily of higher quality than that using other means.

**2.6** Although it is the responsibility of individual agencies to collect monitoring and evaluation data, OGO could help agencies by providing information and promoting best practice in ways of doing so, including the involvement of the private sector, where the Internet is involved.

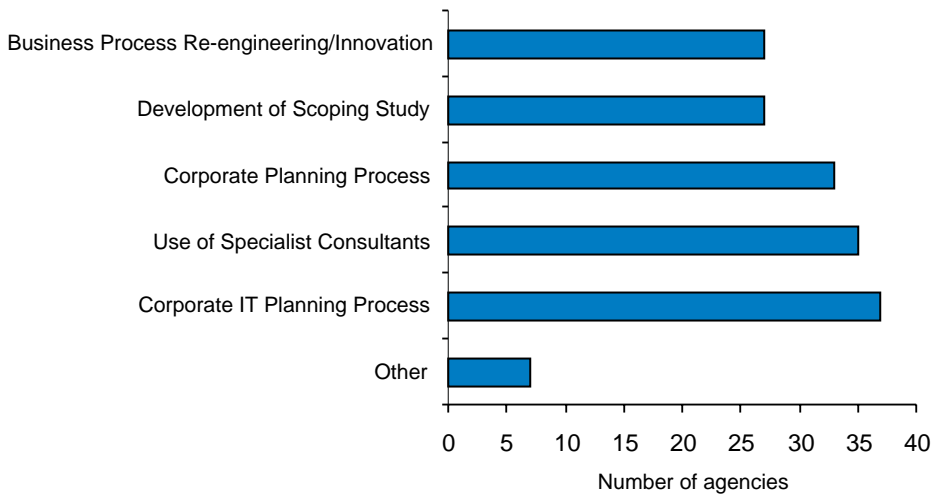
**2.7** The survey showed that agencies have adopted a wide range of measures involving use of the Internet. Promoting a set of common measures that agencies use to assess the success of their efforts would facilitate further understanding of Internet service delivery from a whole-of-government perspective. Such measures would also permit coordinating bodies to evaluate trends in Internet use. The Public Service and Merit Protection Commission publishes an annual state of the Public Service report. This might be a suitable vehicle for reporting whole-of-government trends in Internet use, especially given the importance of this area for Government policy.

**2.8** Although the survey did not address business process re-engineering, the ANAO considers it appropriate for agencies to re-assess the way they perform their functions and provide outputs for identified outcomes using electronic service delivery. Agencies need to address these considerations in the context of their client service delivery charter.

## How have agencies identified Internet opportunities?

**Figure 2.1**

**Techniques to identify Internet and other ESD initiatives—all agencies**



**2.9** Figure 2.1 highlights the key strategies agencies used to identify Internet opportunities. Of the responding agencies, most used a combination of three or more techniques. Corporate IT planning processes and specialist consultants were the most favoured approaches.

**2.10** Agencies responded that they either had, or planned, 378 Internet or other electronic service delivery (ESD) initiatives.

**Table 1**

**Number of initiatives**

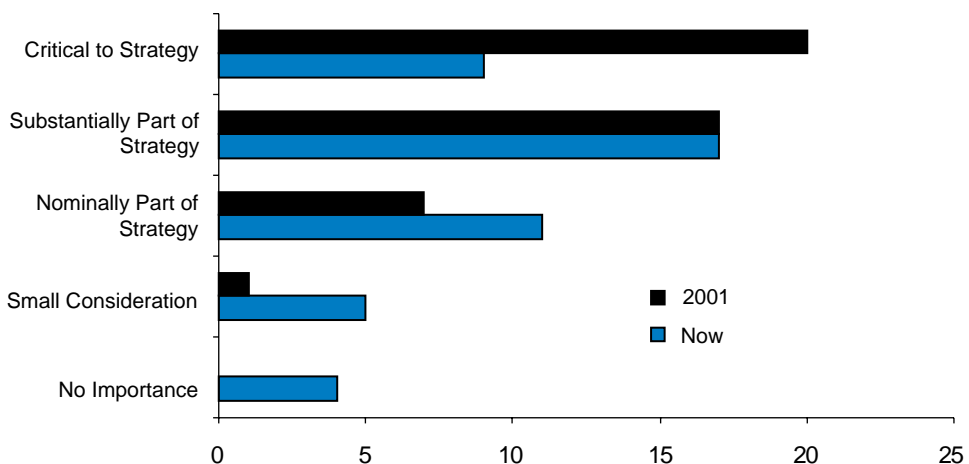
<i>Numbers of Initiatives</i>	<i>Percentage of Agencies</i>
0 (or no answer)	13
1 – 10	64
11 – 20	15
More than 20	8

**2.11** Table 1 shows that most responding agencies had, or planned, fewer than 10 Internet or other ESD initiatives. Eight per cent had identified more than 20 initiatives and one of those had identified 52 initiatives. The plans of that eight per cent required a significant amount of interaction with the public, private sector business and/or public sector agencies.

## How important is ESD, including the Internet, to overall agency service delivery?

**Figure 2.2**

**Importance of Internet and other ESD to all agencies**



**2.12** ESD was defined in the survey questionnaire as reliance on either the Internet or other electronic means of service delivery<sup>8</sup>. More than 55 per cent of agencies considered ESD a crucial or substantial part of their existing service-delivery strategies. Agencies' responses indicated that this figure would increase to 78 per cent by 2001. Relevant data are shown in Figure 2.2.

**2.13** Many electronically delivered services are provided through private or proprietary government networks rather than via the Internet. Therefore, a current issue for agencies is estimating the costs and benefits of complementary, not replacement<sup>9</sup>, systems. This is particularly significant because the Government has given a commitment to continuing existing written, telephone, fax and counter services<sup>10</sup>. Agencies must estimate whether there are enough clients and services to make an alternative mode of program delivery, via the Internet, cost-effective. The more critical the Internet becomes to delivering government services, the more attention agencies should give to ensuring that required service levels and contingency arrangements are maintained.

**2.14** Where agencies outsource functions, consistent with government policy, their contingency planning will rely more on the contingency arrangements of their strategic partners, such as Internet and contracted IT service providers. Those partners and providers will need to embrace government standards of privacy, security, control and accountability, whatever the Government decide they might be. They will become as integral to the process of ensuring the unimpeded delivery of government services as the agencies that they serve. Agencies can use their existing corporate-governance (including risk-management and control) framework to anticipate the likely consequences of outsourcing for the agency's service delivery.

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<sup>8</sup> Appendix 3 lists technologies used in electronic service delivery.

<sup>9</sup> Appendix 3 lists technologies used in electronic service delivery.

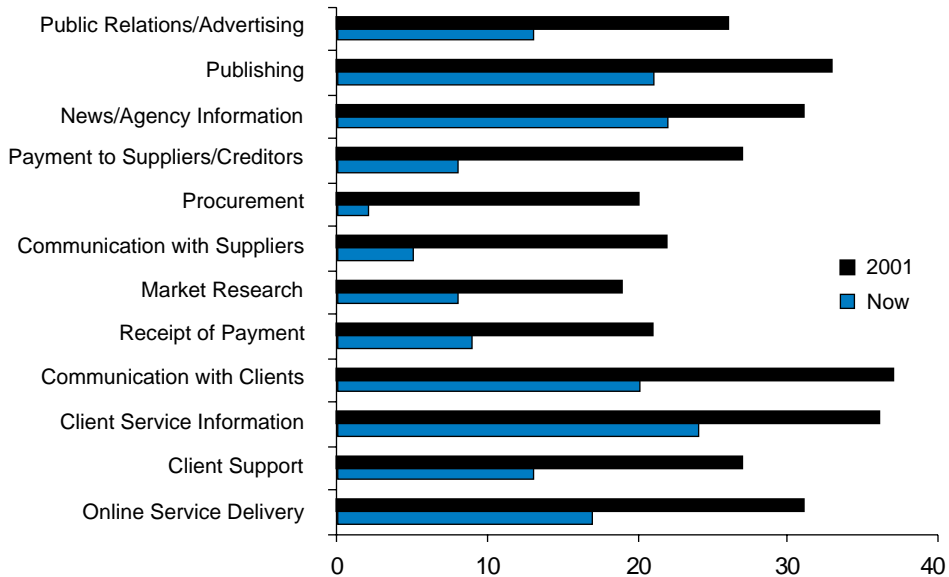
<sup>10</sup> *'Investing for Growth'*, Section 8, The Information Age, p.69.

<sup>11</sup> *bid.*

## What services are important to agencies?

**Figure 2.3**

**Internet or other ESD services rated highly—all agencies**



**2.15** This ANAO survey question provided a list of various types of services that could be provided either via the Internet or by another electronic method. Agencies were then asked which service types they considered it important to provide electronically. Figure 2.3 illustrates agencies' responses.

**2.16** The Figure shows that the most important Internet or other ESD to date in 1999 included interactions such as client-service information; communication with clients; news and agency information; and publishing. In general, agencies anticipated that these would be the most important electronic service activities in 2001 and be joined in importance in that year by transactional functions, such as:

- receipt of payments;
- communication with suppliers;
- procurement; and
- payment to suppliers and creditors.

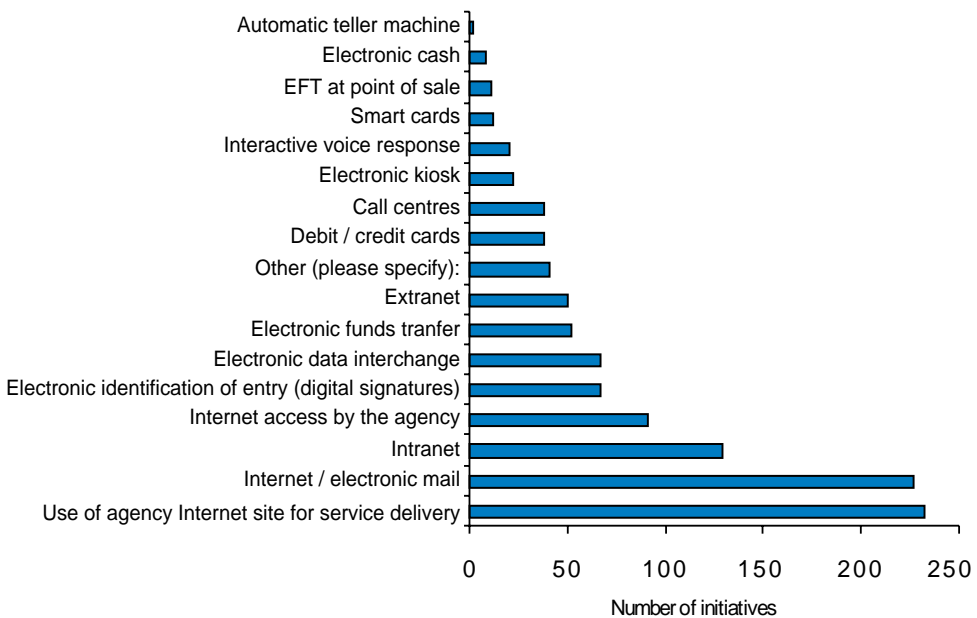
**2.17** As the sophistication of ESD applications increases, agencies should ensure that there is a commensurate reassessment of agency risks and control strategies.

**2.18** An interesting difference is that large agencies emphasised client-focused service types, such as client support and client-service information, rather than general information dissemination, such as news and agency information, publishing, public relations, and advertising.

## What technologies are likely to be used?

**2.19** The survey asked agencies to identify, for each initiative, the types of Internet or other ESD technologies to be employed. Figure 2.4 shows some of the technologies agencies will apply. They will use an average of three types of technology for each initiative.

**Figure 2.4**  
Technology to be used in agency IT initiatives



**2.20** Figure 2.4 demonstrates that agencies expect to use e-mail and an agency Website as the dominant initiatives in the use of Internet or other ESD. Detailed examination of the initiatives showed that agencies used Internet e-mail and Websites to communicate both with their staff and with their individual and organisational clients.

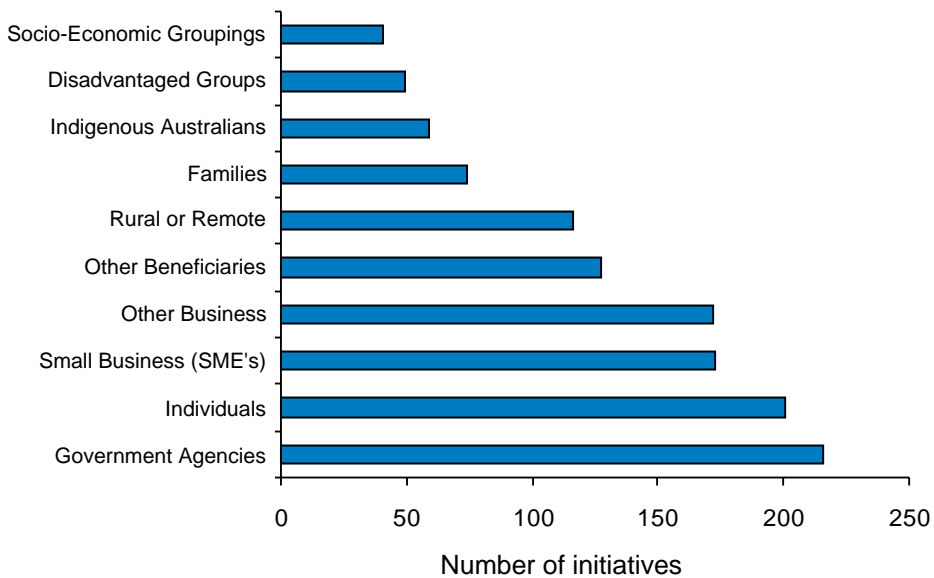
## Who are the likely beneficiaries of Internet and other ESD initiatives?

**2.21** Agencies were invited to identify the main beneficiaries of their electronic initiatives<sup>11</sup>. Figure 2.5 shows that agencies identified the following potential beneficiaries:

- various socio-economic groupings;
- disadvantaged groups;
- indigenous Australians;
- families;
- rural and remote residents;
- businesses; and
- government agencies.

**Figure 2.5**

### Beneficiaries of Internet and other ESD initiatives



<sup>11</sup> More detail on potential beneficiaries is given at Appendix 4

## What use do agencies make of Internet Websites?

**2.22** The bulk (91 per cent) of the agencies that responded to the survey had Websites. The ANAO suggests that all other agencies consider the costs and benefits of establishing and operating Websites in the light of the Government's commitment. Websites are generally considered a necessary first step on the road to more elaborate Internet-based systems, including solutions to e-commerce and interaction with clients. The complexity of the sites available among agencies at present varied from simple sites holding little more than information about the agency to complex ones in which databases were available and could be interrogated. In general the costs of establishing appropriate Websites have reduced over time.

**2.23** The survey also indicated the extent to which agencies manage their Websites (and, by implication, the information they contain) by analysing what information most users examined. Forty two per cent of agencies said they analysed access to their Websites' information with a view to adjusting, improving or modifying the content. To maximise the usefulness of Websites for program delivery, agencies need to analyse the specific interests of users of their Websites.

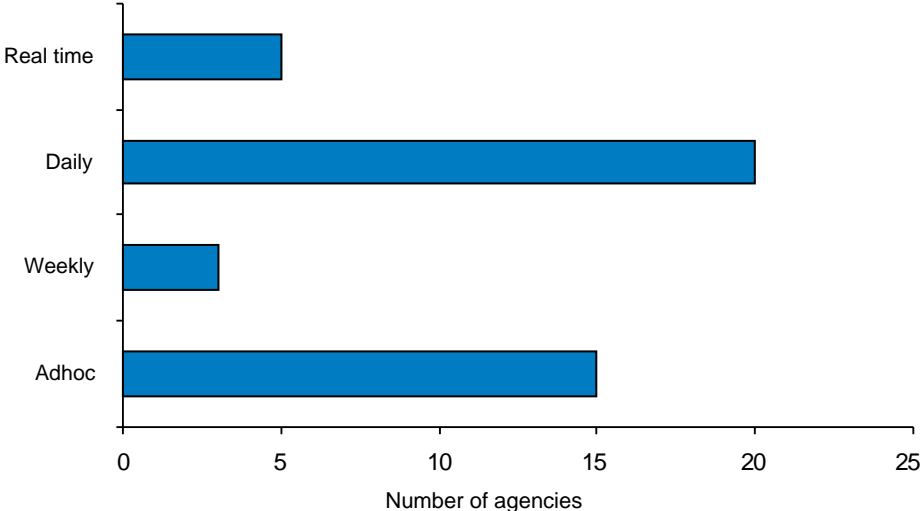
**2.24** An important aspect of Website management is the need to ensure that information is current. To ascertain management practices pursued by Commonwealth agencies, the survey sought information on how agencies revised Website information. In particular:

- how frequently Website information was updated; and
- whether manual or automated methods were used for such updates.

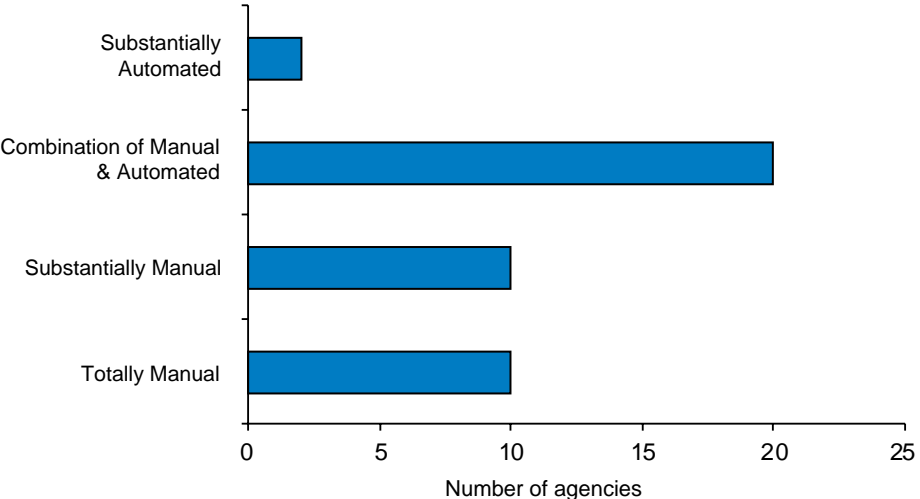
**2.25** Figure 2.6 indicates that a large percentage of agencies revised their Websites daily, implying that they ensured that they were current and accurate. The second-largest group revised their sites' data on an ad-hoc basis.

**2.26** Existing methods of revising Website data were more manual than automated, although there was a clear trend to introducing some level of automation. Figure 2.7 illustrates this trend.

**Figure 2.6**  
**Frequency of Website update**



**Figure 2.7**  
**Method of Website update**



**2.27** The Victorian Government has found short development times for Websites advisable so that agencies can gain experience quickly in experimenting with ESD via the Internet. Short development cycles could also take advantage of good design principles emerging from the rapid evolution of Websites. One of these principles appearing from the Victorian experience is that Website design cannot be based on the assumption that all clients of government services have access to the latest and fastest IT technology<sup>12</sup>. Another consideration is that the management of service delivery via the Internet requires a certain set of skills that the government agency might not have.

## Summary

**2.28** Overall, the survey indicated that:

- 82 per cent of responding agencies considered they would meet the Government's commitment to delivering appropriate services via the Internet by 2001;
- services to be delivered via the Internet included client-service information and support, procurement, payments to suppliers, receipt of revenue, public relations and advertising, and general use of service delivery. Agencies' responses showed that these services were designed to help a broad range of clients; and
- 91 per cent of agencies had an Internet Website, which is an important part of the foundation for service delivery via the Internet.

**2.29** The ANAO concluded that the majority of agencies were well positioned to meet the Government's commitment to deliver appropriate services on the Internet by 2001.

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<sup>12</sup> *Online Service Delivery: Lessons of Experience*. Simsion Bowles & Associates for the State Government of Victoria. <http://www.mmv.vic.gov.au>

## 3. Defining Appropriate Government Services for Internet Service Delivery

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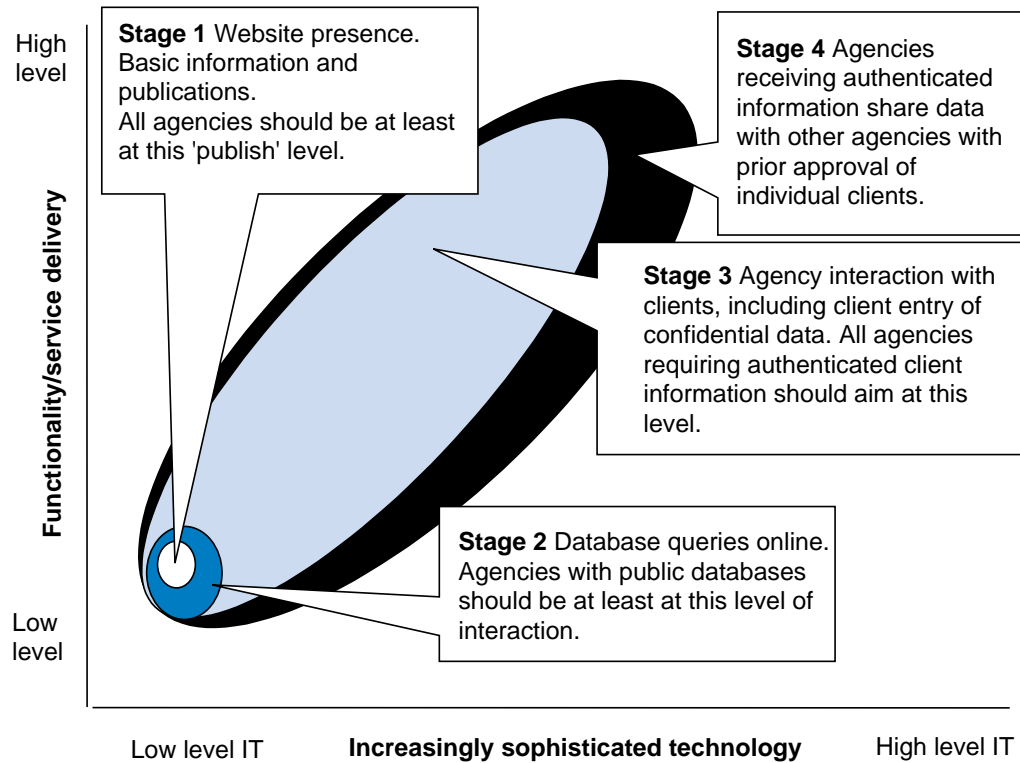
*This Chapter sets out how an agency can decide what level of Internet service delivery is appropriate to its goals, and reports on the proportions of agencies that are at different stages in developing Internet service delivery.*

### **A model of Internet service delivery**

**3.1** An internal review of service delivery, involving IT planning processes, would help an agency to identify Internet opportunities. Such a review should identify appropriate criteria for determining how the service or program should be delivered. Given the relative recency of agency use of electronic means to deliver services, it is likely that not all potential initiatives have been identified adequately.

**3.2** ANAO used the survey data to explore how to create criteria to help agencies decide which services should be delivered electronically. This task overlapped with a practical problem that the survey data presented—how to interpret the range and quantity of information provided by respondents about their almost 400 initiatives. The ANAO and OGO developed a model of government agencies' service delivery via the Internet to assist in this task. The model is shown in Figure 3.1. Appendix 5 provides further information.

**Figure 3.1**  
**ANAO-OGO model of service delivery by the Internet**



**3.3** The ANAO has used this model to represent graphically the services that agencies expect to deliver, now or in the future, on the Internet. The model's horizontal axis refers to increases in the sophistication of technology requirements, and the vertical axis refers to increasingly complex service delivery. The model helps us explain what government agencies are doing to achieve the Government's goal. It has four stages, as follows:

- 52 per cent of agency initiatives would be at Stage 1, at which an agency had a Website that published information about itself and its services;
- 25 per cent would be at Stage 2, at which an agency allows Internet users to access the agency database(s), and to browse, explore and interact with that data;
- 21 per cent would be at Stage 3, at which an agency allows users access as in Stages 1 and 2 and also permits them to enter secure information and engage in transactions with the agency; and
- 2 per cent would be at Stage 4, at which, in addition to the level of access permitted at Stage 3, the agency, with the user's prior approval, shares with other government agencies' information provided by that user.

**3.4** It is not expected that all, or even most, agencies will proceed beyond the early stages, and the ANAO is not in a position to determine what percentage of agencies should be at each stage. The ANAO found that agency functions will be a key factor in determining the stage at which the agency should be providing effective forms of Internet service delivery. Where an agency has no public databases and simply provides information and publications to the public, stage one may be appropriate. In all cases management, for business reasons, should take agency decisions on which stage of Internet service delivery is most appropriate for effective provision of its identified outputs and outcomes.

**3.5** Agency data was used by the ANAO to estimate where each of the large number of initiatives was in relation to the model. The analysis is of trends, showing general patterns of agency activity.

## Service delivery options

**3.6** Agencies can use the above model to identify what services they wish to provide. This approach will help them understand where they are and where they are going and permit agencies with similar Internet functions to share information and experience.

**3.7** To obtain a full understanding of agencies' plans, further analysis of the data is necessary. Future analysis of the survey data could include:

- identifying the likely size of agency expenditure and revenue at each point in the model;
- analysis of each agency's response, to allow a comparative understanding of its role in Internet service delivery; and
- additional work will also be necessary to estimate the proportion of all government services to be delivered via the Internet.

**3.8** OGO, the agency responsible for facilitating Internet service delivery by Commonwealth agencies, could help agencies by developing the above model with its criteria for identifying which services are most appropriate to be offered on the Internet. Additionally, analysis of agency initiatives would develop the criteria for deciding which services to deliver via the Internet or other electronic means. The ANAO's sharing of survey responses with OGO, with agencies' permission, has given OGO some of the information necessary to assess the adequacy of agencies' current approaches. Such analysis is consistent with the role that the Government envisages for OGO. A strong OGO role in this domain will ensure that a larger percentage of government services will be delivered through the Internet than if agencies worked in isolation, and make agencies aware of a wider variety of approaches.

**3.9** The Victorian Government found that a significant number of its agencies were unsure how to begin Internet service delivery—and once they began, how to improve it—so it has provided easily accessible guides and reports for non-technical readers to help them<sup>13</sup>. Similar needs probably exist in Commonwealth agencies. OGO has an important role to play in helping agencies take the next step.

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<sup>13</sup> *Online Service Delivery: Lessons of Experience*, prepared by Simson Bowles & Associates for the Victorian Government. <http://www.mmv.vic.gov.au>

## 4. Impediments to Internet service delivery within Government

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*This Chapter examines impediments to implementing Internet service delivery in the Commonwealth and discusses potential solutions, and compares the survey results for all agencies, departments, and large agencies, as defined in Appendix 2.*

### Background

**4.1** As outlined in Chapter 1, an audit objective was to identify factors that might impede agencies' ability to achieve the Government's 2001 commitment. From the outset of the audit, the ANAO identified a series of potential impediments that fell into the following categories:

**Regulatory framework.** The degree to which existing government policy, agency-specific legislation or other related legislation would delay implementation;

**Logistics.** The degree to which logistical issues, such as the availability of skills and the readiness of business partner, would delay implementation;

**Security, privacy, authentication and public key infrastructure.** The degree to which security, privacy, authentication or public key infrastructure issues would impede implementation;

**Business case and costs.** Business case or cost-benefit impediments including:

- difficulty in identifying or quantifying costs and benefits;
- priority of Internet initiatives relative to other projects of greater priority or higher cost-benefit;
- the cost of initial investment;
- operational or recurrent costs; and
- an inadequate volume of transactions or too few users to support a business case.

**Technology.** Specific technology issues:

- the lack of an agreed standard payment infrastructure (a common agreed format and structure for payments over the Internet); and
- short technology lifecycles associated with Internet product developments (ie. the issue of technology stability).

**Equity and Access.** Whether equity and access considerations would be an impediment. Specific issues were:

- infrastructure not in place (particularly in remote areas);
- client unable to afford the cost of accessing electronic facilities; and
- client unable to use the facilities because of disabilities.

## Regulatory framework

**4.2** The ANAO sought in its survey to assess the degree to which agencies considered existing government policy, agency-specific legislation and other legislation to be an impediment to achieving Internet service delivery. Consideration of the existing regulatory framework as an impediment to progress in the implementation of Internet and other ESD initiatives is not new; for example:

- Commonwealth agencies such as Customs and the ATO have recognised these issues for several years as they have embarked on various electronic initiatives;
- the Commonwealth has recognised the importance of the regulatory framework, and has designed the Electronic Transactions Bill accordingly;
- state governments, through the Standing Committee of Attorneys-General, have recognised the issue of settling the status of electronic documents relative to paper documents;
- legal jurisdictions in Australia and around the world have to deal with the impact of electronic media on established rules of evidence; and
- recent assessments by the Auditor-General of Canada identified the issue of legal impediments caused by the implied paper bias in all federal statutes<sup>14</sup>.

**4.3** Examples of legislation that supports Commonwealth Internet and other ESD initiatives are:

- *Income Tax Assessment Act 1936*. 1997 amendments to facilitate electronic lodgment of returns; eg., S.161A, s.264B; and
- *Customs Act 1901*. 1990–97 amendments to allow electronic lodgment of cargo reports; eg., S.64AB, Ss.67A–67E, the use of computers in air cargo importation systems.

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<sup>14</sup> Auditor-General of Canada 1998, *Electronic Commerce: Conducting Government Business on the Internet*, Chapter 19, December 1998, <http://www.oag-bvg.gc.ca/domino/reports/>. See Appendix 6.

**4.4** The survey identified two crucial areas of likely legislative impediment:

- paper documents are implied generally in the existing legislative framework. The *Electronic Transactions Bill*<sup>15</sup> will set in place a legal and regulatory framework that will allow electronic communications to satisfy existing legal requirements and permissions. This legislative framework will facilitate electronic service delivery by the Commonwealth Government. Commonwealth agencies will be given powers to specify information technology and verification requirements that must be complied with before legal requirements can be satisfied;
- agencies now have to consider various implementation issues of Internet and other electronic service delivery within this legal framework, including:
  - standards and procedures to be implemented under the powers granted to Commonwealth agencies by the *Electronic Transactions Bill*;
  - methods of archiving and protecting Commonwealth records; and
  - procedures and controls to be implemented to deal with fraud.

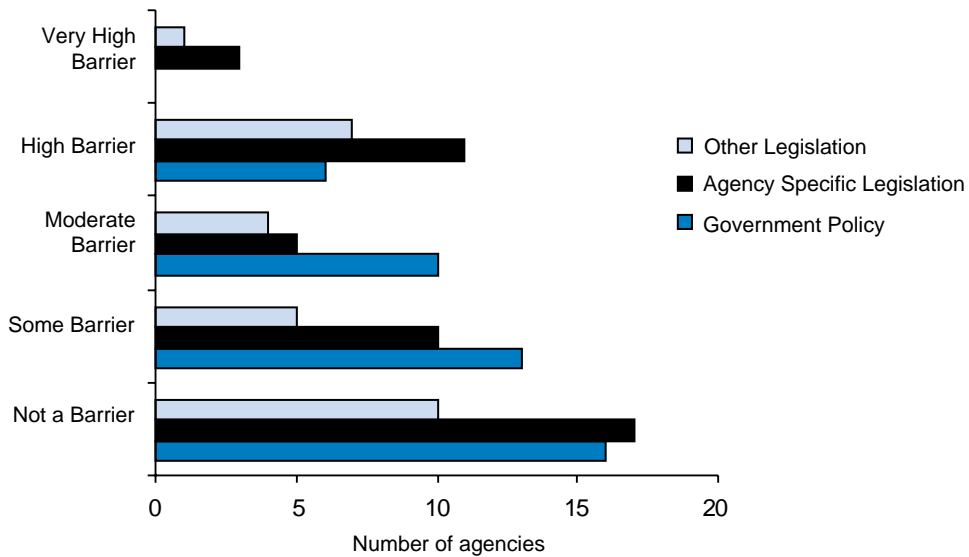
**4.5** Implementation of the *Electronic Transactions Bill* will be phased to allow agencies time to put the necessary Internet and other electronic service delivery systems in place. Until 1 July 2001, the Bill will apply to Commonwealth legislation that agencies have recommended to be covered by its operation. After that it will apply to all Commonwealth legislation unless exempted specifically. The Attorney-General's Department is asking agencies to identify legislation for inclusion in the Bill from its commencement. This identification will continue as more Internet and other electronic service delivery initiatives are implemented. The Attorney-General's Department, in consultation with OGO, will develop a plan to help Commonwealth agencies implement the Bill.

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<sup>15</sup> The Electronic Transactions Bill was introduced into Parliament by the Attorney-General on 30 June 1999.

**Figure 4.1**

**Impediments—regulatory framework—all agencies**



**4.6** Figure 4.1 illustrates that 30 per cent of respondent agencies viewed their agency-specific legislation as a potentially high or very high barrier to the successful implementation of Internet initiatives.

**4.7** These figures are based on agency responses compiled in January 1999—a time when the impact of the new electronic transactions legislation might not have been appreciated fully by agencies. It does suggest, however, that the Attorney-General’s Department should continue to:

- communicate the impact of the new legislation to agencies;
- assess whether the new legislation deals sufficiently with agency concerns; and
- help agencies review their specific legislation in the light of the emerging Internet initiatives they are considering.

**4.8** The ANAO recognises that the Attorney-General’s Department is developing a coordinated program of legal information awareness and assistance to advise and guide agencies on the effects of the *Electronic Transactions Bill* on their legislation.

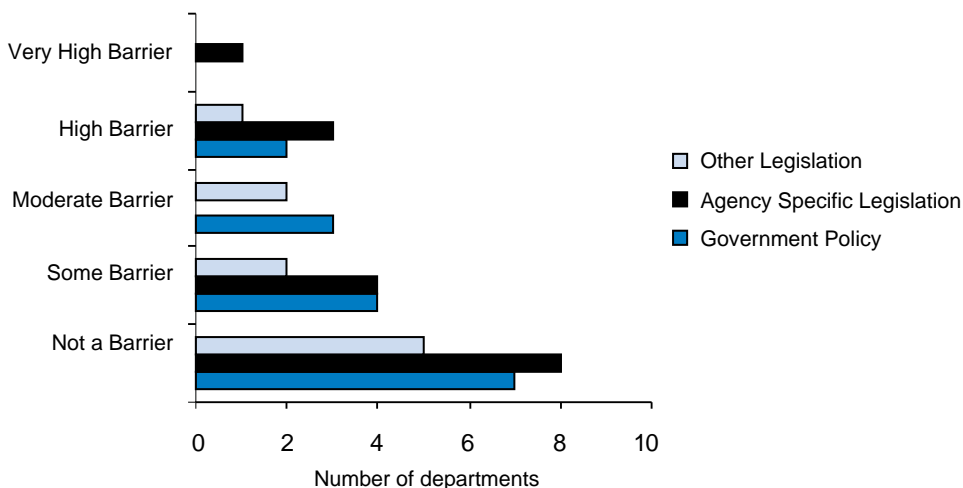
**4.9** As suggested earlier, the Attorney-General’s Department—since September 1998—has been consulting agencies on the Bill’s development. This process has included individual meetings with a number of agencies, two large forums for all agencies and access to the Department’s e-commerce Website<sup>16</sup>. The Bill has been amended to take into account concerns raised by agencies.

<sup>16</sup> <http://law.gov.au/commerce>

**4.10** The Department is working with OGO on educational programs that will include information about the Bill. Departmental officers provide legal advice and guidance on it.

**Figure 4.2**

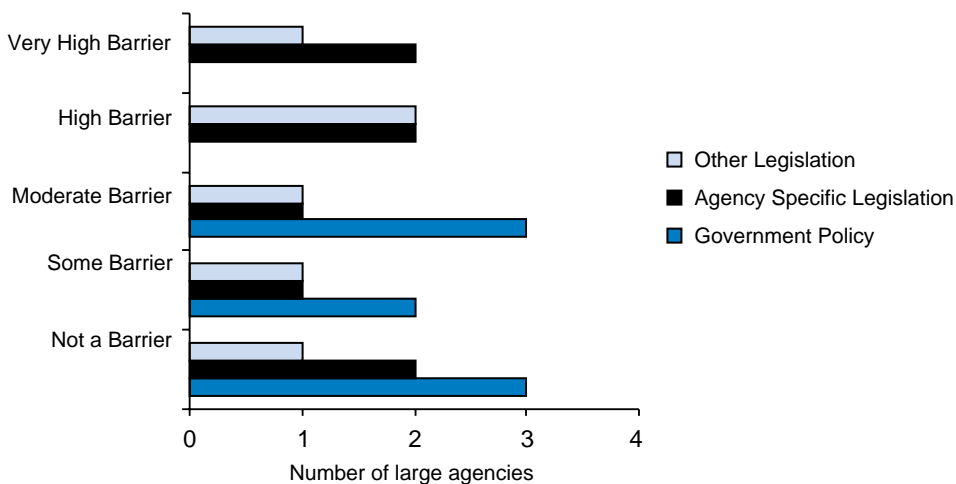
**Impediments—regulatory framework—departments**



**4.11** In addition to analysing the survey results for all respondents, an analysis of responses from all departments and an analysis of responses from large agencies, some of which were also departments, was undertaken. Appendix 2 lists agencies stratified into these groups. Figures 4.2 and 4.3 illustrate departments’ and large agencies’ perspectives on regulatory impediments to Internet service delivery.

**Figure 4.3**

**Impediments—regulatory framework—large agencies**



**4.12** Large agencies seemed to view government policy as less of an obstacle than did departments. However, other legislation was viewed as being a potential impediment.

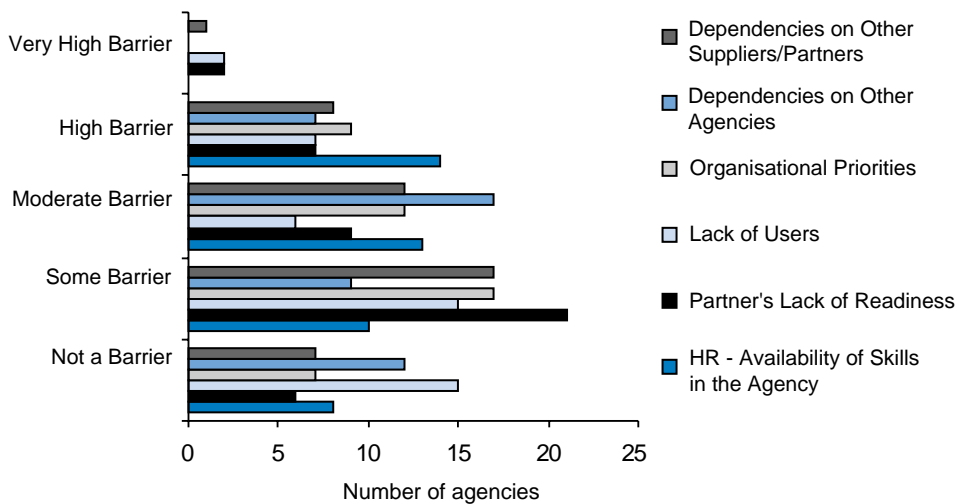
## Logistics

**4.13** Potential logistical problems include:

- the shortage of technical skills;
- unpreparedness of business partners;
- lack of users for Internet initiatives;
- competing or more important organisational priorities;
- dependence on other agencies; and
- dependence on other suppliers and partners.

**Figure 4.4**

**Impediments—logistics—all agencies**

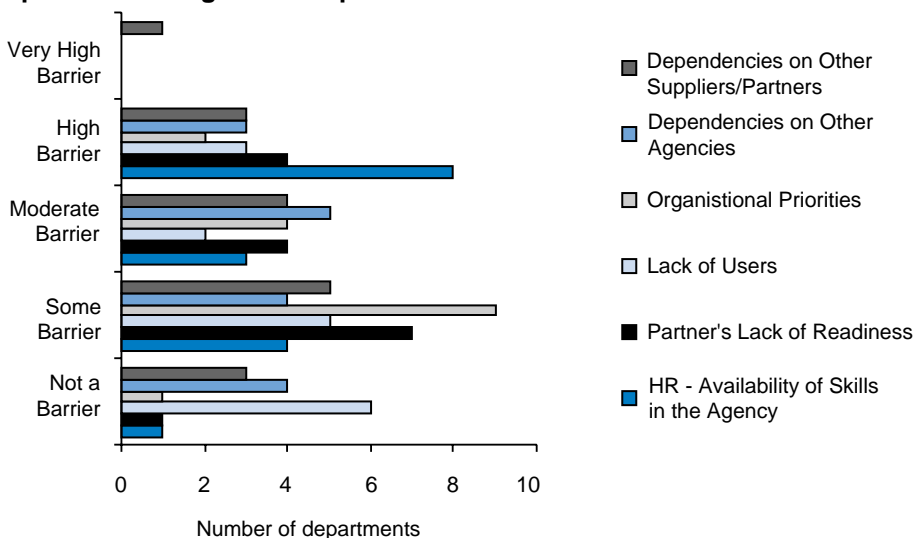


**4.14** Figure 4.4 indicates that 30 per cent of agencies considered the limited availability of suitable skills a major impediment to Internet service delivery. Later interviews with staff of selected agencies suggested that the skills identified as lacking were technical IT and not business skills. The general shortage of IT skills as a result of year 2000 (Y2K) remedial work was also likely to affect agencies' ability to implement the changes needed in IT systems. The implication of this conclusion is that much of the developmental work for Internet initiatives will need to be undertaken by contract personnel and outsource service providers.

**4.15** Y2K remedial work was likely to maintain a high level of demand for IT resources for the six to 12 months after 1 January 2000. IT outsourcing and, since the survey was conducted, the decision to implement a Goods and Sales Tax will also increase the demand for IT staff resources. There is, therefore, a risk that agencies will not be able to buy sufficient staff resources or, if trained people are available, it will be at a premium. As a consequence, shortages of human resources could cause delays and increase costs, resulting in agencies' initiatives being either delivered late or too costly to pass a cost-benefit scrutiny.

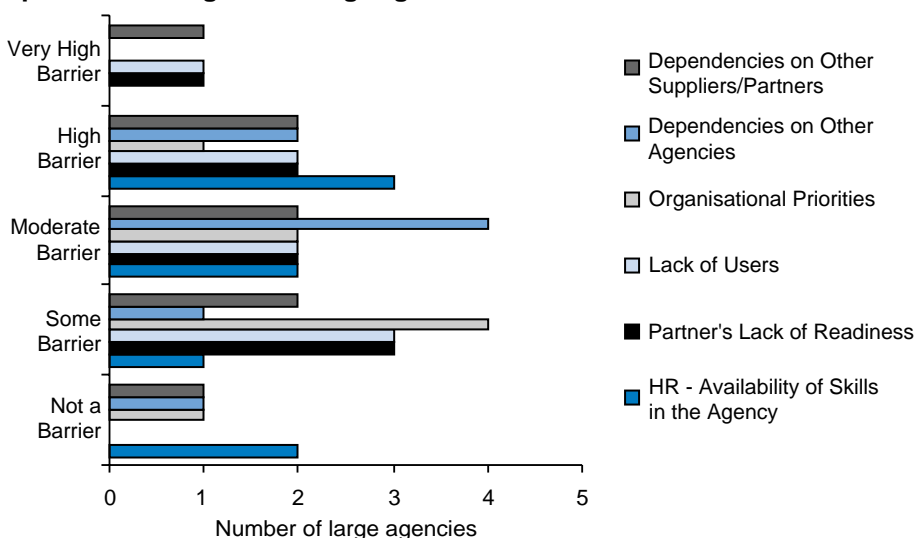
**Figure 4.5**

**Impediments—logistics—departments**



**Figure 4.6**

**Impediments—logistics—large agencies**

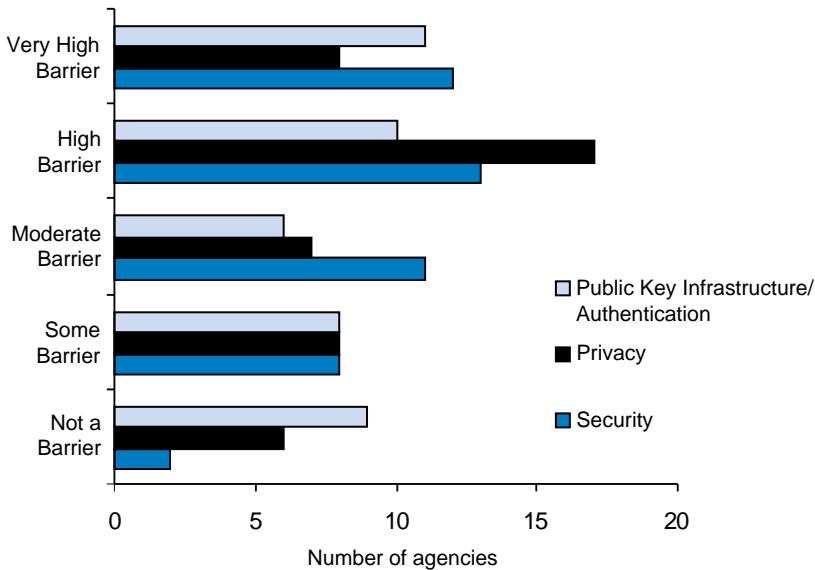


**4.16** Figures 4.5 and 4.6 highlight the particular responses by departments and large agencies. When comparing the two figures, it is noteworthy that departments have a higher level of concern than large agencies do about skill shortages.

## Security, privacy, authentication and public key infrastructure

**Figure 4.7**

**Impediments—security, privacy & PKI—all agencies**



**4.17** The ANAO sought in its survey agencies' views on issues of security, privacy and Public Key Infrastructure, including authentication. Public Key Infrastructure is described below. Figure 4.7 shows that more than half the agencies rated the issues as high or very high impediments. They were of most concern in terms of impeding progress toward compliance with the Government's commitment, and are discussed in turn.

### *Security*

**4.18** Fifty three per cent of all agencies rated data security as a high or very high impediment. Figures 4.8 and 4.9 show that it was considered an equally importance issue for both departments (50 per cent) and large agencies (50 per cent).

## Privacy

**4.19** Agencies expected that information about their contracts with the private or community sectors would remain commercial-in-confidence. Individuals' concerns were *'about the broader concept of an individual's rights to influence the way personal information was collected and used'*<sup>17</sup>.

**4.20** Fifty three per cent of agencies rated privacy issues as a high or very high barrier. As shown in the Figures 4.8 and 4.9, large agencies considered it an issue of more importance (63 per cent rating privacy as a high or very high barrier) than did departments (44 per cent). At the time this report was drafted, DEWRSB's Business Entry Point project was probably the most advanced of any Commonwealth project in developing a privacy policy<sup>18</sup>. The project's privacy policy is a useful model for other agencies.

**4.21** Where there is Internet service delivery, financial and other kinds of losses and damage can be suffered by agencies' clients through agencies publishing incorrect or misleading information on the Website. This may be a result of ignorance, negligence, abuse or deliberate sabotage, and lead to legal liabilities for the agency. In other words, the delivery of services via the Internet introduces new risks and exposure that can result in a legal liability for government<sup>19</sup>. Well-designed security and privacy policies can minimise the Commonwealth's risks and liabilities while informing agencies' clients of important aspects of the services they can expect to receive.

**4.22** The Defence Signals Directorate has issued security guidelines for Australian Government IT systems<sup>20</sup>. They describe measures recommended for agencies that have connections with public networks such as the Internet. The Australian Privacy Commissioner has issued guidelines for IT and Internet use.<sup>21</sup>

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<sup>17</sup> Office of Government Information Technology May 1998. *Gatekeeper: A strategy for public key technology use in the Government*, p.10.

<sup>18</sup> see <http://www.business.gov.au> for further information.

<sup>19</sup> Auditor-General of Canada 1998, *Electronic Commerce: Conducting Government Business on the Internet*, Chapter 19, December 1998, <http://www.oag-bvg.gc.ca/domino/reports/>

<sup>20</sup> Defence Signals Directorate, Information Security Branch, *Security Guidelines for Australian Government IT Systems, April 1998, ACSI 33*, Defence Signals Directorate, Commonwealth of Australia, 1998, Section 20—*The Internet and the World Wide Web*. See also, Defence Signals Directorate Australia, *Australian Government Standards for the Protection of Information Technology Systems Processing Non-National Security Information at the Highly Protected Classification, ACSI 37*, Defence Signals Directorate, Commonwealth of Australia, June 1998, Chapter 19—*Web Applications*. [www.dsd.gov.au](http://www.dsd.gov.au)

<sup>21</sup> The Australian Privacy Commissioner's Website, *Information Technology and the Internet*, <http://www.privacy.gov.au/issues/index.html>

**4.23** The ANAO considers that, where they have not done so already, agencies with Websites should develop policies and operational strategies for their security. Further, they should develop similar policies and strategies regarding information related to individuals or organisations available from the site. Central agencies<sup>22</sup> such as OGO could act as clearing houses to help agencies with the development of advice on these policies.

#### *Public key infrastructure*

**4.24** Public Key Infrastructure techniques use technology to encrypt, decrypt and verify data. An administration is needed to manage its implementation in user agencies.

### **Public key infrastructure**

In public key technologies, each user of the system has two keys, a public key and a private key. The use of these keys can ensure, in messages:

- privacy;
- authentication;
- non-repudiation; and
- integrity of information therein.

To ensure that only the recipient can read the message, the sender encrypts it with the recipient's public key. Only the recipient, using his or her private key can decrypt the message.

As only the sender knows the private key, the recipient is assured of its authenticity and the sender cannot repudiate it.

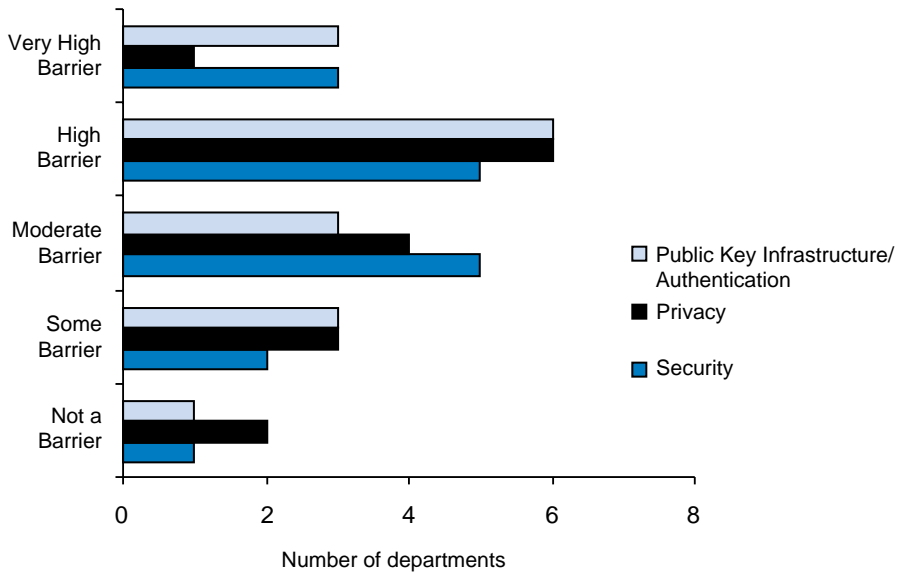
If the message is tampered with during transmission, the public key will not decrypt it.

**4.25** Public Key Infrastructure is of importance to all agencies wishing to embark on initiatives that do more than just disseminate information. Key issues that will be addressed by PKI are:

- each person communicating electronically needs to ensure that the recipient is who he or she thinks it is, so that one cannot later deny being the sender of a particular electronic message or transaction. This ability to rebut a party's denial of sending a message is called non-repudiation; and
- the ability to encrypt data transmissions over an open or public network (such as is used by the Internet), so that those transmissions can be read only by the intended recipient.

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<sup>22</sup> Central agencies and their role in ESD are listed at Appendix 7.

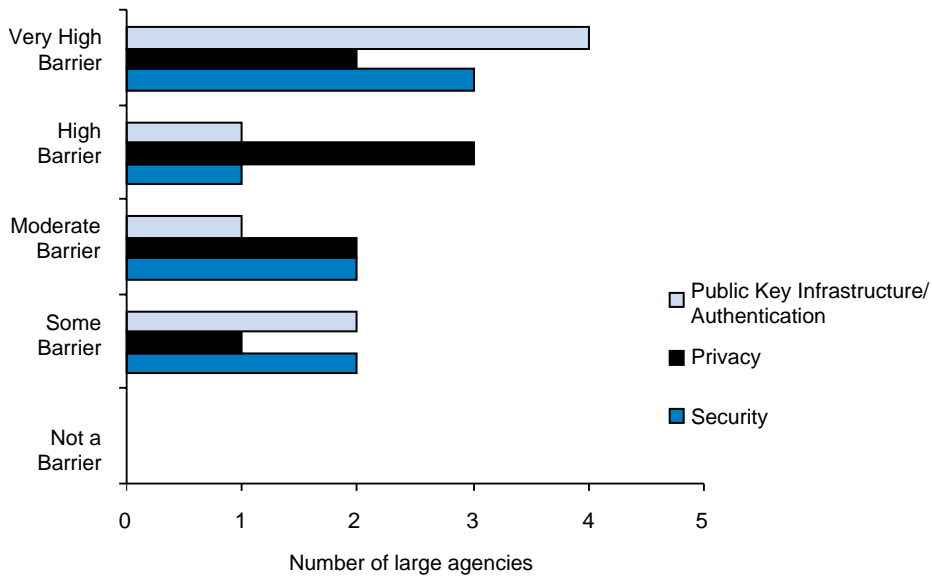
**Figure 4.8****Impediments—security, privacy and PKI—departments**

**4.26** In May 1998 the Government announced the publication of the *Gatekeeper Report*, which outlined the strategy for the use of Public Key Technology for electronic transactions in Commonwealth agencies.<sup>23</sup> It preceded the ANAO survey by more than six months (May 1998 to January 1999). Notwithstanding, as shown in Figures 4.8 and 4.9, the absence of PKI is still perceived by most departments and large agencies as a significant impediment. Resolution of PKI issues will speed progress in privacy and security matters. A sign of progress with PKI was that in May 1999 the Government announced the first company to obtain Government Public Key Authority (GPKA) accreditation. The company expected to offer PKI services to all government agencies.

<sup>23</sup> Refer Gatekeeper Report, released by OGIT (now OGO) in May 1998.

**Figure 4.9**

**Impediments—security, privacy and PKI—large agencies**



**4.27** PKI is crucial to those agencies whose initiatives involve transactions that are financial or have legal and/or security implications for the parties involved. PKI is integral to the implementation of a secure and trusted Internet environment. The question of PKI rated as a high or very high barrier for almost 44 per cent of all respondent agencies. Figures 4.8 and 4.9 show that it was considered important by both departments and agencies. However, advice from OGO was that, from their discussions with agencies, agencies are not yet ready to use the technology but were concerned it may be a future impediment.

**4.28** Figure 4.9 shows that significantly more large agencies than other respondents viewed the absence of PKI as a very high impediment. Subsequent interviews with selected respondents indicated that a significant proportion of their concern was due to doubts about the likelihood of PKI's acceptance and implementation before 2001. Of note is that the OGO has established a Government Public Key Authority (GPKA), which is a management committee comprising senior representatives of Commonwealth agencies and information-technology industry associations. It is charged with overseeing the Government's public key technology strategy.

**4.29** Costs will be incurred for the initial registration of a public user, for maintenance, and for charges and renewals as necessary. Private-sector agencies will register users and there will be costs associated with that. Agencies must consider the best way to provide for those costs,

including whether government agencies pay private-sector agencies for user registration and use, or charge through user fees<sup>24</sup>. The extent of any user fees for PKI will affect its acceptance.

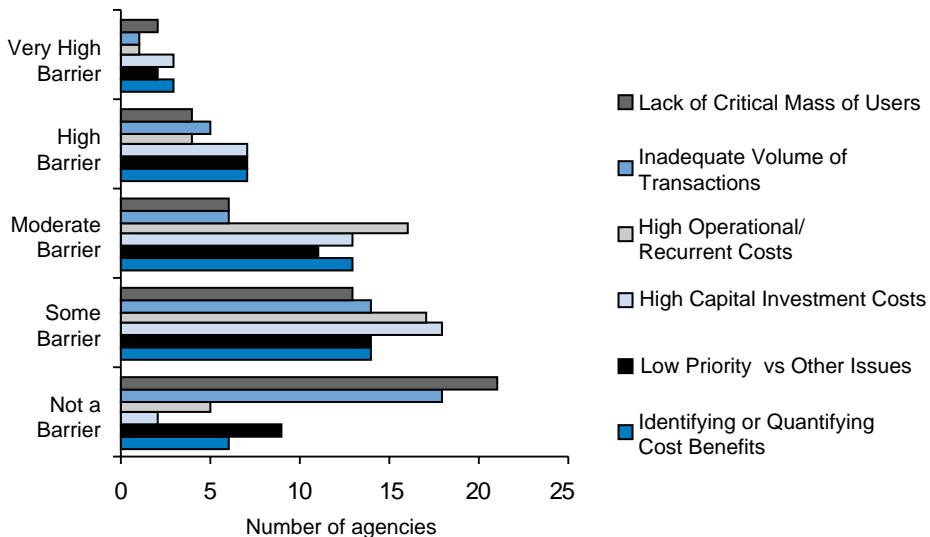
## Business case and costs

**4.30** The survey sought information on impediments, caused by business case and cost-related issues, to achieving a 2001 implementation date. The aspects respondents were asked to consider were:

- the difficulty of identifying or quantifying costs and benefits of Internet initiatives;
- the priority of Internet initiatives relative to other issues of potentially greater business or other benefit;
- high cost of initial capital outlay;
- high operational and recurrent costs;
- inadequate volume of transactions to support a business case; and
- the lack of a critical mass of users to support a business case.

**Figure 4.10**

**Impediments—business case/costs—all agencies**



<sup>24</sup> Auditor-General of Canada 1998, *Electronic Commerce: Conducting Government Business on the Internet*, December 1998, <http://www.oag-bvg.gc.ca/domino/reports/>

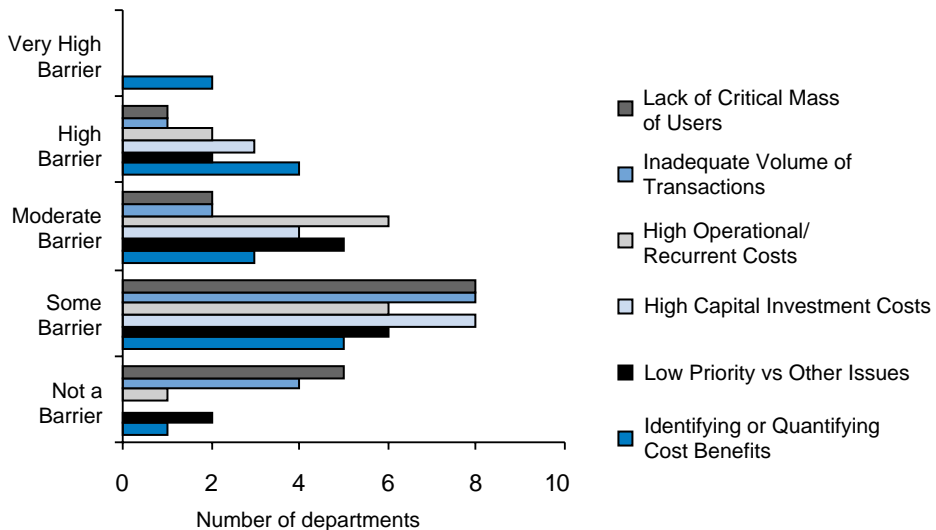
**4.31** Figure 4.10 shows that responses indicated that business-case issues were not considered as large a barrier as other issues. The key issues identified as being of high or very high concern to 21 per cent of responding agencies were:

- the difficulty of identifying or quantifying the costs and benefits of Internet initiatives (of significant concern to departments and large agencies); and
- the high cost of initial capital outlay.

**4.32** A key issue raised by agencies in follow-up discussions was that, because all Internet initiatives are to complement existing government services, there is likely to be a greater degree of difficulty in supporting a business case. OGO signalled also that it believed that agencies were having difficulty developing sound business cases for Internet service delivery.

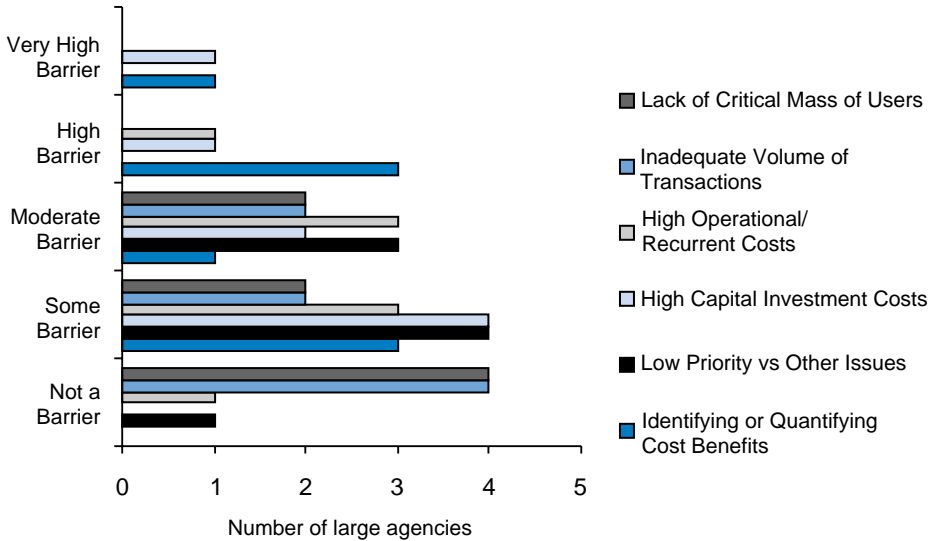
**Figure 4.11**

**Impediments—business case/costs—departments**



**Figure 4.12**

**Impediments—business case/costs—large agencies**



**4.33** Figures 4.11 and 4.12 show, as would be expected, departments and large agencies do not have a concern regarding a critical mass of users and volume of transactions, whereas some smaller agencies do have that concern. Figure 4.12 also shows that the importance of identifying or quantifying costs and benefits is the aspect of greatest concern to large agencies.

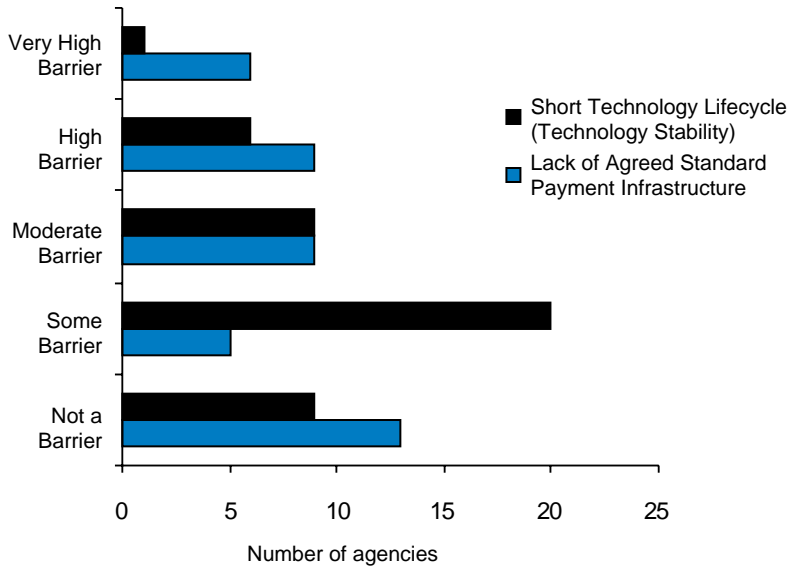
**Technology issues**

**4.34** The survey questions covered two technology-related issues:

- the lack of an agreed standard payment infrastructure; and
- the current short technology lifecycles associated with Internet product developments (ie. technology stability).

**Figure 4.13**

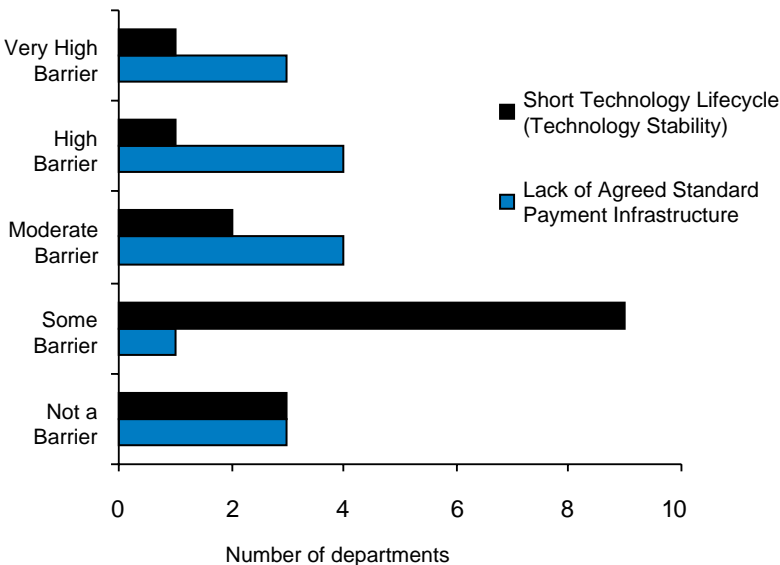
**Impediments—technology—all agencies**



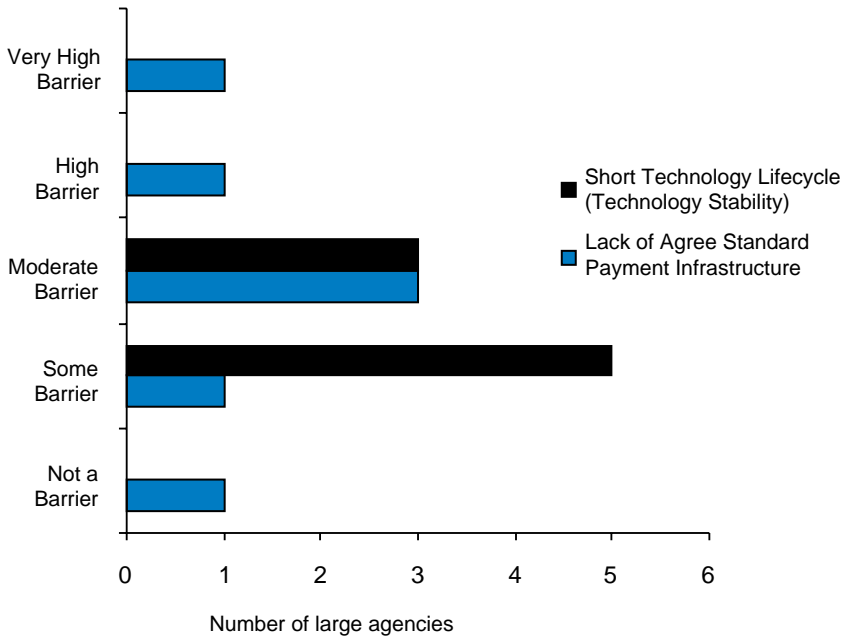
**4.35** Figure 4.13 shows that, of all responding agencies, 32 per cent rated the lack of an agreed standard payment infrastructure as a high or very high potential impediment. However, this issue is one for the financial industry of Australia. An agreed payment infrastructure will exist once national and international financial institutions have a common agreed structure and format for payments over the Internet. The extent to which the finance sector in Australia is ready to embrace Internet banking is outside the control of Commonwealth agencies.

**Figure 4.14**

**Impediments—technology—departments**



**Figure 4.15**  
**Impediments—technology—large agencies**



**4.36** The trends of departmental and large agency responses (Figures 4.14 and 4.15) were similar to those for all agencies, except that departments viewed the lack of an agreed payments infrastructure as being of some concern. Of departments, 44 per cent rated this aspect as high or very high as opposed to 25 per cent of the large-agency group.

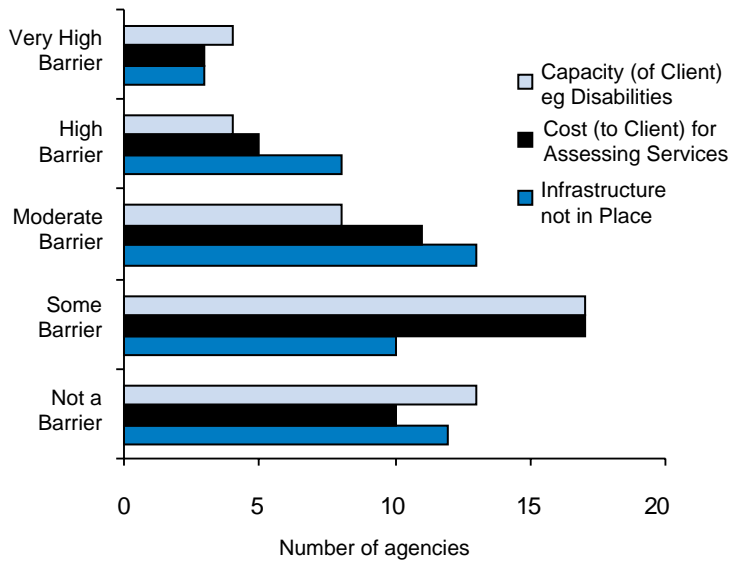
**4.37** The technology lifecycle issue was not considered a major issue, although 66 per cent of agencies viewed it with some to moderate concern.

### Equity & access

**4.38** Survey questions were devised to assess the degree to which equity and access considerations were perceived as impediments to progress. Such considerations identified in the survey were:

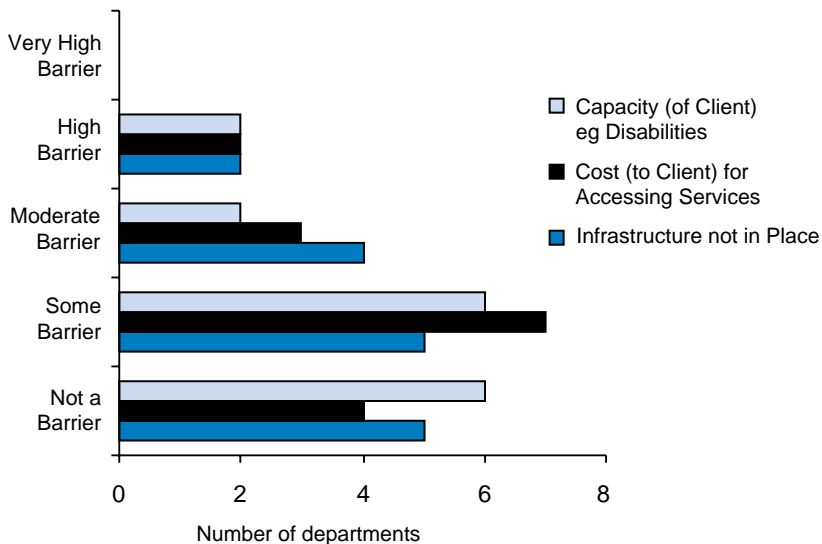
- infrastructure for client access not in place;
- cost to the client in order to access services; and
- limited capacity of the client to access services (eg. a client with a disability).

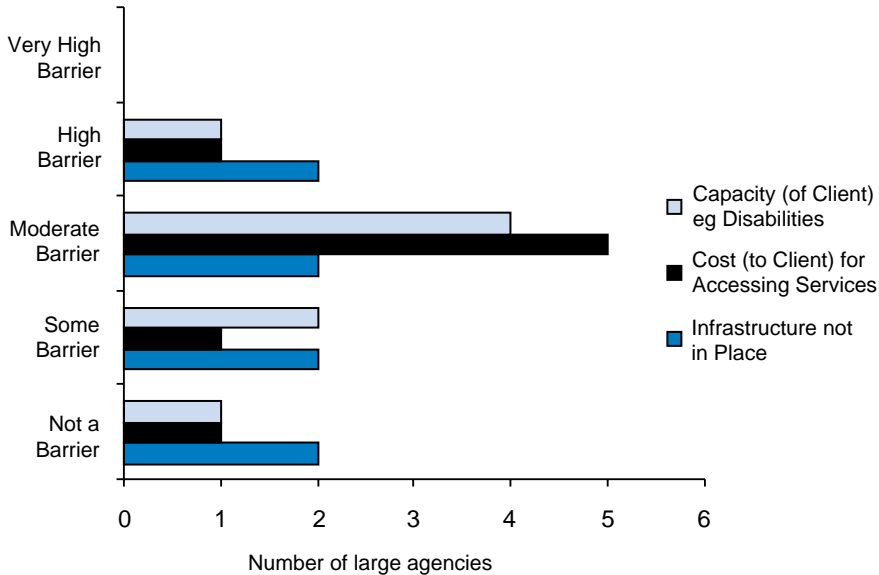
**Figure 4.16**  
**Impediments—equity & access—all agencies**



**4.39** Of responding agencies, 19 per cent rated equity and access as a high or very high concern (Figure 4.16). This over-all rating compared with a specific rating of 23 per cent for the equity-and-access infrastructure issue.

**Figure 4.17**  
**Impediments—equity & access—departments**



**Figure 4.18****Impediments—equity & access—large agencies**

**4.40** Departments and large agencies showed less concern about the difficulty of addressing access and equity matters (Figures 4.17 and 4.18). However, most large agencies showed a moderate level of concern about the costs of access and the capacity of clients to access services. This raises the long-term issue of maintenance of methods of existing service delivery, as well as whether greater use of, and access to, kiosks needs to be considered for certain government services, on equity and access grounds, where clients do not have the funds or ability to access the Internet.

### Good examples

**4.41** Because of the relative recency of extensive reliance by government agencies on use of the Internet to deliver services, there are few widely known examples of sound program delivery using the Internet. Lack of agency knowledge of sound examples slows consideration of Internet service delivery. It is a problem that must be addressed so that the Government's policy objectives can be expedited.

**4.42** Outside the information-technology arena there is a system of awards for the best annual reports prepared by government agencies, which has led to competition between many agencies to win awards, demonstrating and improving their accountability to the Government and to Parliament. Annual awards for outstanding examples of electronic service delivery, particularly for those programs delivered via the

Internet, could play an equally useful role. Of note is that a prominent financial newspaper sponsors annual awards for the best business Websites. However, because the focus for Commonwealth agencies would be on program or service delivery using the Internet, rather than on Websites, any official body that accepted the challenge of sponsoring or developing those awards desirably would have an agency or program rather than an IT focus, and be well-placed to compare and contrast programs throughout the public service. The ANAO raised this concept with the Public Service and Merit Protection Commission (PSMPC). The Commission agreed that the concept of the awards seems appropriate, noting that PSMPC has not been funded to undertake this activity.

## Summary

**4.43** The survey identified the following key impediments:

- agency-specific legislation, which affected 30 per cent of agencies;
- shortage of appropriate IT skills (30 per cent);
- data security and privacy issues—of most concern to agencies and affecting 53 per cent. A particular issue was Public Key Infrastructure.

## Recommendations

**4.44** Taking into account topics covered in the previous three chapters, the ANAO makes the following recommendations.

### Recommendation No.1

**4.45** The ANAO recommends that individual agencies:

- review their legislation as early as possible to identify any barriers to the use of the Internet for service delivery;
- identify and assess the costs and benefits of reliance on the Internet to deliver government services;
- ensure they have appropriate privacy and data security policies and practices in place for their Internet sites;
- monitor and evaluate their service delivery via the Internet to make continuous improvements;
- take appropriate action to identify and minimise any associated legal liability for government, such as might be created if incorrect or misleading information on an agency's Internet site led to a user's financial loss; and
- reassess their risks and related control strategies as the organisation increases its use of the Internet and other forms of electronic service delivery mechanisms.

## Recommendation No.2

**4.46** The ANAO recommends that the Office for Government Online consult pro-actively with agencies on how it can best assist them to deliver services through the Internet. Options to explore include provision of information on how best to address impediments, facilitation of involvement of the private sector on a cost-effective basis, promoting better practice on service delivery, and evaluation of Internet usage.

*The Office for Government Online response*

**4.47** Agreed.

*A number of those proposed actions are included in a draft Government Online Strategy which has been developed by OGO to be considered by Ministers shortly.*

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Canberra ACT  
15 November 1999

P. J. Barrett  
Auditor-General



# Appendices



## Appendix 1

### Background to Electronic Service Delivery in Commonwealth agencies

1. The Commonwealth has recognised the importance of electronic commerce and ESD for more than a decade. Their potential was recognised by several agencies in the late 1980s and in the early 1990s their use for purchasing was endorsed by the formation of the Electronic Commerce Office in DAS and supported by the IESC. Several reports recommended that agencies implement electronic commerce, including, in May 1994, *Working Nation: The White Paper on Employment and Growth* and the December 1994 report of the House of Representatives Standing Committee on Industry, Science and Technology. A statement of direction on electronic commerce for the Commonwealth was published in April 1995.

#### Early agency developments

2. The ATO, Customs and AQIS began work separately on electronic service delivery systems in 1987–89. The ATO Electronic Lodgment System began with one tax agent in 1987 and by 1994, 60 per cent of tax returns were lodged electronically. Similarly, by 1993, 97 per cent or 770 000 commercial export transactions were lodged electronically with Customs and 320 of 430 meat exporters sent documents to AQIS electronically.

3. The systems developed by these agencies were based on proprietary or EDIFACT protocols. These agencies, with many others, include the Internet now as a service-delivery mechanism.

#### The Information Exchange Steering Committee (IESC)

4. The IESC was established as an advisory body in 1985 in the then Public Service Board to promote interconnectivity between agency computer systems and facilitate information exchange between government agencies. On the PSB's being abolished in 1987, responsibility for the IESC was passed to DoF. Until it was abolished in 1995 on the establishment of OGIT, the IESC was the only body widely accepted as the government's central coordinating body for developing and promoting IT and telecommunications policies, strategies and standards. The IESC supported agencies' development of electronic commerce. In particular it formed an Electronic Data Interchange subcommittee that developed the Commonwealth Statement of Direction on Electronic Commerce, published in April 1995.

5. The IESC formed an Inter-Agency Steering Committee for Electronic Commerce for Purchasing, and DAS was given responsibility for raising awareness of EDI. There was an allocation of \$4.5 million for one year for implementing electronic commerce. A May 1994 government white paper on Employment and Growth included a decision that agencies would move to electronic commerce over the ensuing three years.

### **Electronic Data Interchange (EDI)**

6. In the early 1990s the Commonwealth expected to use EDI standards for message transfer and hence electronic commerce. The UN/EDIFACT standard was chosen eventually. However, a lack of users, significant start-up costs, and the advent of the Internet worked against agencies' adoption of EDI.

### **Transigo**

7. In November 1996 a deed of agreement between the Commonwealth and Telstra was signed to establish the Commonwealth Electronic Commerce Service (CECS), operating under the name Transigo. It was expected to begin in March 1997 and the contract to run for five years. Telstra was expected to spend about \$60 million developing the system and infrastructure. Although the initial implementation of Transigo concentrated on tender opportunities and electronic gazettals, developments were to include product catalogues and other features.

8. Transigo was overtaken by developments on the Internet. The contract is expected to be terminated by mutual agreement by the end of 1999.

### **GOSIP**

9. In the 1980's and early 1990's significant effort went into developing open systems standards, particularly for interconnecting incompatible systems. Open Systems Interconnection (OSI) development began overseas in 1977. The IESC was given the task of developing the Australian GOSIP (Government Open Systems Interconnection Profile) in 1988 and the policy was promulgated in November 1990. The final version, GOSIP 3, was published in August 1993. By 1995 it was clear that there was a lack of compliance with GOSIP. The Internet standard TCP/IP had become a marketplace reality and GOSIP and open-systems policies were dropped from whole-of-government IT strategies.

## **The Internet**

**10.** A common element of changes in the above programs is the explosive development of the Internet. A major review of IT in the Commonwealth, *Clients First*, published in March 1995, did not mention the Internet as a possible service-delivery mechanism. Four years later most agencies have a Website and regard the Internet as a significant potential service-delivery mechanism. The relatively recent growth of the Internet, with its potential for cheap and universal access combined with ease of use, has fuelled the growth of e-commerce in this medium. Earlier standards such as EDIFACT required significant investment by both agencies and businesses. The Internet can be used relatively cheaply by both.

## Appendix 2

### Respondent details

#### Response rate

The overall agency response rate to the questionnaire was 77 per cent.

#### List of agencies that completed the survey questionnaire

<b>Name of Agency</b>	<b>No. of Initiatives</b>
<i>Administrative Appeals Tribunal</i>	*
<i>Affirmative Action Agency</i>	2
<i>Attorney-General's Department</i>	10
<i>Australian Bureau of Statistics</i>	7
<i>Australian Centre for International Agricultural Research</i>	2
<i>Australian Competition and Consumer Commission</i>	5
<i>Australian Customs Service</i>	3
<i>Australian Electoral Commission</i>	6
<i>Australian Federal Police</i>	5
<i>Australian Greenhouse Office</i>	6
<i>Australian Industrial Registry</i>	5
<i>Australian National Audit Office</i>	2
<i>Australian Securities and Investments Commission</i>	2
<i>Australian Security Intelligence Organisation</i>	2
<i>Australian Taxation Office</i>	26
<i>Centrelink</i>	32
<i>Commonwealth Grants Commission</i>	4
<i>ComSuper</i>	10
<i>Department of Agriculture, Fisheries and Forestry</i>	1
<i>Department of Communications, Information Technology and the Arts</i>	*
<i>Department of Education, Training and Youth Affairs</i>	33
<i>Department of Employment, Workplace Relations and Small Business</i>	10
<i>Department of Family and Community Services</i>	11
<i>Department of Foreign Affairs and Trade</i>	15
<i>Department of Health and Aged Care</i>	15
<i>Department of Immigration and Multicultural Affairs</i>	11
<i>Department of Industry, Science and Resources</i>	52
<i>Department of the Environment and Heritage</i>	9
<i>Department of Prime Minister and Cabinet</i>	*
<i>Department of the Treasury</i>	11
<i>Department of Transport and Regional Services</i>	8
<i>Department of Veterans' Affairs</i>	9
<i>Family Court of Australia</i>	6

<b>Name of Agency</b>	<b>No. of Initiatives</b>
<i>Federal Court of Australia</i>	10
<i>Human Rights and Equal Opportunity Commission</i>	4
<i>IP Australia</i>	5
<i>National Competition Council</i>	1
<i>National Crime Authority</i>	0
<i>National Native Title Tribunal</i>	12
<i>Office for Government Online</i>	13
<i>Office of National Assessments</i>	1
<i>Office of Parliamentary Counsel</i>	0
<i>Office of the Official Secretary to the Governor General</i>	*
<i>Parliamentary Departments (five departments)</i>	7
<i>Productivity Commission</i>	2
<i>Professional Services Review</i>	2
<i>Public Service and Merit Protection Commission</i>	1
<b>TOTAL</b>	<b>378</b>

\* no initiatives identified.

## Agencies not completing the survey questionnaire

<i>Aboriginal and Torres Strait Islander Commission</i>
<i>Australia-Japan Foundation</i>
<i>Australian Agency for International Development</i>
<i>Australian Secret Intelligence Service</i>
<i>Australian Transaction Reports and Analysis Centre</i>
<i>Classification Board</i>
<i>Classification Review Board</i>
<i>Department of Defence</i>
<i>Department of Finance and Administration</i>
<i>Director of Public Prosecutions</i>
<i>Insurance and Superannuation Commission</i>
<i>National Capital Planning Authority</i>
<i>Office of Asset Sales and Information Technology Outsourcing</i>
<i>Office of Film and Literature Classification</i>
<i>Office of Inspector-General of Intelligence and Security</i>

## Response summary

### Source of agency response

The survey, in both hard copy and electronic form, was distributed to the 66 FMA agencies late in December 1998; responses being requested by 5 February 1999. Late respondents were contacted to ensure that as many FMA agencies responded as possible. Agencies were invited to respond on hard copy, by returning the diskette with the electronic file, or by returning the electronic file by E-mail on the Internet. Of responses received, 30 per cent were received in hard copy only; 47 per cent on diskette; and 23 per cent via the Internet.

### Qualitative follow up

A selection of significant agencies was interviewed to discuss further the results of the survey and their agency's responses. This process was intended to add qualitative information to the quantitative data obtained from the survey. It also helped ensure consistency among respondents' answers. The following seven agencies were interviewed:

- Australian Customs Service;
- Australian Taxation Office;
- Department of Agriculture, Fisheries and Forestry—Australia;
- Department of Industry, Science and Resources;
- Department of Health and Aged Care;
- Department of Employment, Workplace Relations and Small Business;  
and
- Office for Government Online.

## Respondent stratification

Apart from the analysis of responding agencies as a whole, two further groups of respondents were analysed. The departments and large agencies were as follows:

*The group of departments comprised:*

<i>Attorney-General's Department</i>
<i>Department of Agriculture, Fisheries and Forestry—Australia</i>
<i>Department of Communications, Information Technology and the Arts</i>
<i>Department of Education, Training and Youth Affairs</i>
<i>Department of Employment, Workplace Relations and Small Business</i>
<i>Department of Family and Community Services</i>
<i>Department of Foreign Affairs and Trade</i>
<i>Department of Health and Aged Care</i>
<i>Department of Immigration and Multicultural Affairs</i>
<i>Department of Industry, Science and Resources</i>
<i>Department of Prime Minister and Cabinet</i>
<i>Department of the Environment and Heritage</i>
<i>Department of the Treasury</i>
<i>Department of Transport and Regional Services</i>
<i>Department of Veterans' Affairs</i>
<i>Parliamentary Departments</i>

*The group of large agencies comprised:*

<i>Australian Customs Service</i>
<i>Australian Taxation Office</i>
<i>Centrelink</i>
<i>Department of Education, Training and Youth Affairs</i>
<i>Department of Employment, Workplace Relations and Small Business</i>
<i>Department of Family and Community Services</i>
<i>Department of Health and Aged Care</i>
<i>Department of Veterans' Affairs</i>

## Appendix 3

### Technologies used in Electronic Service Delivery

For the purposes of the survey, the term '*delivering services electronically*' included services being delivered by any or all of the following types of methods:

- The use of the Internet or private networks to provide:
  - agency-to-business purchasing or procurement;
  - agency-to-client information services;
  - client-agency mail; and
  - agency-stakeholder identification i.e., identification or certification;
- Intranets;
- Extranets;
- Electronic data interchange (EDI);
- Electronic kiosk;
- Electronic funds transfer (EFT);
- EFT at point of sale (EFTPOS);
- Debit/credit cards;
- Smart cards;
- Electronic cash;
- Call centres;
- Interactive voice response (IVR); and
- Automatic teller machines (ATMs);

The key consideration in the above was that contact between the individual or organisational client and the government service provider was supported by at least one of the above methods. The survey results indicated that the Internet would become the dominant ESD vehicle.

## Appendix 4

### Potential beneficiaries of Internet initiatives

<b>Beneficiaries of ESD initiatives</b>  <b>Agencies</b>	<b>Number of initiatives identified for group</b>									
	<i>Individuals</i>	<i>Families</i>	<i>Indigenous Australians</i>	<i>Socio-economic groupings</i>	<i>Disadvantaged groups</i>	<i>Rural or remote</i>	<i>Small business (SMEs)</i>	<i>Other business</i>	<i>Government agencies</i>	<i>Other beneficiaries</i>
<i>Administrative Appeals Tribunal</i>										
<i>Affirmative Action Agency</i>									1	2
<i>Attorney-General's Department</i>	6					3	5	6	10	7
<i>Australian Bureau of Statistics</i>	2	1				2	4	5	5	5
<i>Australian Centre for International Agriculture Research</i>										
<i>Australian. Competition and Consumer Commission</i>	2	1	1	2	2	3	3	3	4	1
<i>Australian Customs Service</i>						2	1	1	3	3
<i>Australian Electoral Commission</i>	6	3	5	5	5	5	1	2	3	4
<i>Australian Federal Police</i>	4							2	2	
<i>Australian Greenhouse Office</i>	6	6				6	6	6	6	6
<i>Australian Industrial Registry</i>	2	2					2	2		2
<i>Australian National Audit Office</i>										
<i>ASIC</i>	2					2	2	2	2	
<i>Australian Security Intelligence Organisation</i>	1									
<i>Australian Taxation Office</i>	15	1	1	1	1	1	17	11	7	9
<i>Centrelink</i>	15	10	12	10	24	10	5	18	11	7
<i>ComSuper</i>	10					7	3	3	10	1
<i>Commonwealth Grants Commission</i>									3	3
<i>Department of Agriculture, Fisheries &amp; Forestry</i>						1	1	1	1	
<i>Department of Education, Training &amp; Youth Affairs</i>	23	7	9	9	11	9	9	14	19	21
<i>Department of Employment WR &amp; SB</i>	9	8	8	9	9	9	9	9	8	2
<i>Department of Family &amp; Community Services</i>	7	7	2	1	2	2	3	4	9	10
<i>Department of Foreign Affairs and Trade</i>	9	6			1	5	9	11	11	8

Agencies \ Beneficiaries of ESD initiatives	Number of initiatives identified for group									
	Individuals	Families	Indigenous Australians	Socio-economic groupings	Disadvantaged groups	Rural or remote	Small business (SMEs)	Other business	Government agencies	Other beneficiaries
Department of Health and Aged Care	3	2	2	2	2	2	9	6	7	1
Department of Immigration and Ethnic affairs	3	1					1	2	2	2
Department of Industry Science and Resources	38	5	3	2	2	13	39	40	44	17
Department of the Environment and Heritage	8	2	1			2	6	7	7	2
Department of the Prime Minister & Cabinet										
Department of the Treasury									1	1
Department of Transport & Regional Services	5	3	2	3	2	4	6	5	7	5
Department of Veterans' Affairs	6	5			1	1	3	1	5	7
Family Court of Australia	6	6	6		6	6				
Federal Court of Australia	7	6	5	5	3	7	6	6	6	1
Human Rights and Equal Opportunity Commission										
IP Australia	5					5	5			
National Competition Council	1					1	1	1	1	
National Crime Authority										
National Native Title Tribunal			12			12	12	12	12	
Office for Government Online	9				1		8	8	13	
Office of National Assessments									1	
Office of the Parliamentary Counsel										
Office of the Official Secretary to the Governor-General										
Parliamentary Departments	4					4			4	5
Professional Services Review										
Productivity Commission	2	2	2	2	1	2	2	2	2	1
Public Service and Merit Protection Commission									1	1

## Appendix 5

### ANAO model of Internet service delivery

1. ANAO used the survey data to explore how to create criteria to help agencies decide which services should be delivered electronically. This task overlapped with a practical problem that the survey data presented—how to interpret the range and quantity of information respondents provided on their almost 400 initiatives. The ANAO and OGO developed a model of government agencies' service delivery via the Internet to facilitate this task.

2. The model has four stages, as follows:

- Stage 1 is a Website that publishes information about the agency and its services;
- Stage 2 allows Internet users to browse and interact with the agency's database(s);
- Stage 3 includes the first two stages and permits users to enter information on the Website, exchanging or transacting secure information with the agency; and
- Stage 4 is the same as Stage 3 but in addition the agency, with the user's prior approval, shares that user's information with other government agencies.

3. These stages are described now in more detail.

4. Stage 1 permits an agency with a Website to provide or publish information about its services to those who access it. Publications are available online and can be downloaded. There is a limited inquiry and search facility. The information is made available in a static display. There are no limits to public access to the information. A current example is the ANAO's Website<sup>25</sup>. Other examples are the ATO's placement of its tax determinations online, the Attorney-General's Department provision of considerable legal information and the Australian Institute of Health and Welfare's Website.

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<sup>25</sup> Appendix 8 gives examples of Stage 1 and 2 Websites

## **Examples of Stage 1 of government agencies' ESD via the Internet**

Australian National Audit Office <http://www.anao.gov.au>

The ANAO Website provides information about the ANAO, links to other audit or government-related sites and the ability to read and download ANAO publications, including ANAO reports to Parliament. The ANAO does not have publicly available databases and does not obtain information from the public or business, except in the course of its audit activity.

Australian Institute of Health and Welfare <http://www.aihw.gov.au>

AIHW has developed, on behalf of the national Health Information Management Group, the National Health Information Knowledgebase (NHIK), an electronic repository and query tool for information about health data. It can be used to find out what data collections are available on a specific health-related topic or term, and any related official national agreements, definitions, standards and work programs, as well as any linked organisations, institutions, groups, committees or other entities.

NHIK does not provide access, as a rule, to actual data via its searching and query tools but such access is planned. It is an example of a Stage 1 Website, albeit a sophisticated one.

5. Stage 2 permits an individual who accesses a Website to access or interact with the agency's database. The individual can calculate an entitlement, subsidy or debt, or do research using part or all of the database. Interactive facilities are limited. There are no limits to public access to information on the Website. A current example is the Australian Bureau of Statistics' site, which gives access to much of its statistical information.

6. Other agencies with databases of publicly available information have made those databases searchable online. Examples are DEWRSB, which encourages job search through the Internet, and the Australian Communications Authority, which permits searches of its database of transmission licences and licensed cablers. Agencies providing services at Stages 1 and 2 are not committing themselves to functions with significant risks of security, privacy or financial breaches.

### **An example of a Stage 2 Website**

Australian Communications Authority <http://www.aca.gov.au>

The (ACA) makes available online through the Internet realtime information on radiocommunications and cabling licences. Users can extract details of who holds radiocommunication licences, technical aspects of those licences and the transmitter site details. Searches can be conducted by licence holder, licence number, frequency, site or Postcode.

Inquiries about cabling licences can yield details of the name, postal address, contact phone number if available, licence number, licence type and licence endorsements where applicable, of all current holders of ACA cabling licences. Licensed cablers are able to install, connect, remove or maintain all types of cabling connected to, or intended for connection to, a telecommunications network

7. Stage 3 requires authentication or verification of the individual's identity, used by the agency to control access to its data, and to authenticate data being provided. Stage 3 involves exchange of information between the agency and the individual Internet user once the agency has verified his or her identity. The interaction can have financial implications. This stage covers secure, authenticated financial transactions. In future, financial transactions on the Internet will be more secure, so more agencies might advance to it. An example of Stage 3 is the Australian Taxation Office's project for individual taxpayers' electronic lodgment of tax returns. By using others, approved employers can register jobs on DEWRSB's jobsearch facility, and import/export brokers and their clients can enter cargo import information in the Australian Customs Service's database. These examples are major projects in which agencies are addressing fully the risks of security, privacy and financial obligations.

### **An example of Stage 3**

DEWRSB Jobsearch <http://www.jobsearch.gov.au>  
<http://lodgeajob.dewrsb.gov.au>

Jobsearch allows employment seekers to search a database of employment opportunities by location, occupation, postcode or suburb, and perform more sophisticated searches. The site is considered a Stage 3 because employers can lodge jobs for placing on the database. The employer is able to provide details of employment, which are screened for defamatory, obscene or discriminatory material before entry on the database.

8. The major difference between Stage 3 and Stages 1 and 2 is that agencies embarking on Stage 3 need to authenticate the identity of the person or business entering the information.

### **An example of Stage 3**

DEWRSB Business Entry Point <http://www.business.gov.au>  
<http://www.aboutbusiness.gov.au>

The Business Entry Point is an Internet-based service that enables businesses in Australia to find information about their compliance requirements and perform a range of transactions online. There is a Website (<http://www.business.gov.au>) but the service can be accessed through state and territory governments and a telephone hot-line (132846). An associated site (<http://www.aboutbusiness.gov.au>) provides information about the service and how agencies and businesses can participate.

From November 1999, businesses will be able to register for an Australian Business Number through the Business Entry Point. As well, businesses and agencies will be able to search and browse the Australian Business Register through it.

In association with it, a standing panel of Internet payment products and services has been established for federal, state, territory and local governments.

The Government has designated the Business Entry Point as the key online access point for businesses dealing with the Commonwealth Government.

9. Stage 4 involves government agencies' exchanging information provided by individuals, organisations or businesses, with their prior consent. For example, an agency notified of a change of address would recognise it as an event of which other agencies should be notified, and would do so, with the prior knowledge of the original provider of the data. A few agencies have or are proposing interchange of information at this level. A future likely example of Stage 4 will be the DEWRSB Business Entry Point, which will link government agencies so businesses can conduct business-to-government-related transactions. Another example is the Australian Customs Service's Website, which transfers information electronically already to AQIS.

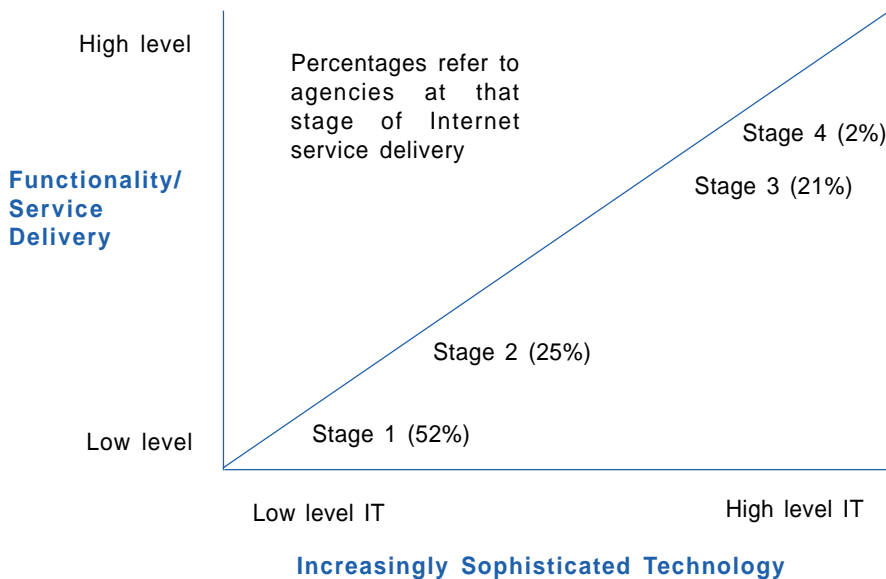
10. Policy agencies are examples of agencies which might be able to deliver engage services electronically delivery by initiating Websites and remaining at Stages 1 or 2, perhaps using the Internet to collect and disseminate information about government policy. These agencies do not need to have a Stage 3 or 4 form of Internet service delivery because their primary client is government, rather than individuals or non-

government organisations. Some of the information they collect might be confidential and require identity authentication, but that does not imply that they have moved to Stages 3 or 4.

11. Figure A5.1 summarises the results of the survey of FMA agencies. It shows the proportions of IT initiatives expected to be at the different stages of Internet use by 2001.

**Figure A5.1**

**Commonwealth Internet Service Delivery and the Distribution of initiatives planned for 2001**



12. There were some responses that were not classified because of the inadequacy of agency data. There were difficulties in some instances in deciding whether respondents were better classified as having implemented Stage 1 or Stage 2. Where an agency indicated that an initiative would have characteristics of more than one stage, it was classified as having implemented the highest of the possible stages involved.

13. The great majority of respondents excluded EFT and EFT functions from their replies. To be consistent, the ANAO did not include data from the relatively small number of agencies that referred to their EFT activities.

14. It will be recalled that a characteristic of Stage 3 is that the identity-authentication problem is addressed and solved, and Stage 4

involves sharing data with other agencies with the prior permission of the respondent. It is unrealistic to expect all agencies to need to move to Stages 3 and 4, and impossible to predict what proportion of programs and initiatives should or will be at Stages 3 or 4 in a few years.

## Appendix 6

### Other audit coverage

The issue of government's encouraging and facilitating the introduction of Internet-capable services or e-commerce is of interest to audit offices in Australia and overseas. The Auditor-General of Western Australia published an audit report, *Send Me No Paper*, in November 1998<sup>26</sup>. The audit concentrated on electronic purchasing by the Western Australian public sector while recognising that many of the topics covered were relevant to the wider delivery of online services.

The audit found that *electronic purchasing can cut costs, improve customer service and lead to improved expenditure analysis and control. But this can require a redesign of all phases of the purchasing cycle—these gains are not obtained by simply automating existing manual processes.*

The Auditor-General of Canada reported in December 1998 on *Electronic Commerce: Conducting Government Business by the Internet*. The report concluded that:

- The government is making progress in the areas we examined and is moving towards conducting business via the Internet by addressing barriers<sup>27</sup> to electronic commerce as follows;
  - the progress being made towards the development of a technical solution to concerns about the security of transactions conducted on open public networks;
  - the provision of remedial action to the 'paper bias' identified in all Federal Statutes; and
  - the observation that a senior sponsor is needed to advance electronic commerce in government. Particular reasons for this were related to the many issues that needed to be solved before common infrastructures were in place to support seamless delivery of services across departments and agencies<sup>28</sup>.

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<sup>26</sup> Auditor-General of Western Australia, Perth November 1998, *Send Me No Paper*, Report No. 10, [http://www.audit.wa.gov.au/reports/report98\\_10.html](http://www.audit.wa.gov.au/reports/report98_10.html)

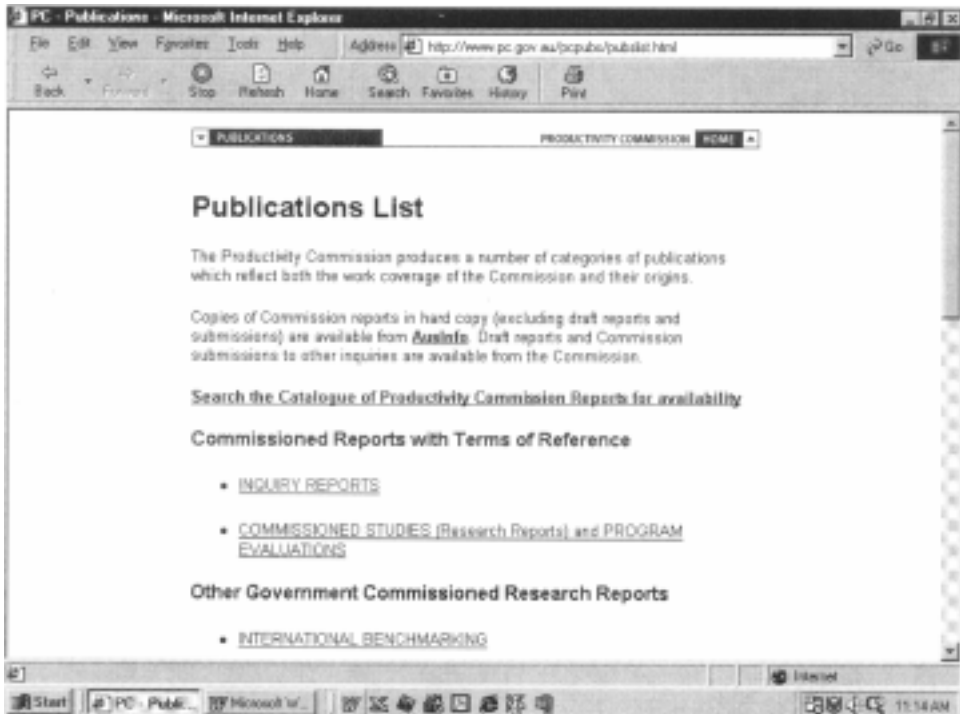
<sup>27</sup> *'Electronic Commerce: Conducting Government Business via the Internet'*, Auditor-General of Canada, para 19.100ff.

<sup>28</sup> *Ibid*, para 19.105

## Appendix 7

# Examples of Commonwealth Government Agency Websites, Stages 1 and 2 of Internet Service Delivery

*An example of a Stage 1 site. Productivity Commission Productivity Commission publications*



*An example of a Stage 2 site. Australian Communications Authority  
Search for radiocommunications licences on the Australian  
Communications Authority database*

The screenshot shows a Microsoft Internet Explorer browser window with the title "ACA: Quick Searches for the Register of Radiocommunication Licences". The address bar displays "http://www.aca.gov.au/database/radcomm". The browser's menu bar includes "File", "Edit", "View", "Go", "Favorites", and "Help". The toolbar contains icons for "Back", "Forward", "Stop", "Refresh", "Home", "Search", "Favorites", "History", "Channels", "Fullscreen", and "Links".

The main content area is titled "Quick Searches" and features five search input forms, each with a "Run Enquiry" button and a "Reset" button:

- by client number
- by licence number
- by callsign
- by postcode
- by ship name

The browser's status bar at the bottom shows "Internet zone".

## Appendix 8

### Co-ordinating agencies' roles

The most important Commonwealth Government agencies with cross-portfolio responsibilities are the National Office of the Information Economy, the Office for Government Online, and the Attorney-General's Department. Other key agencies with important cross-portfolio responsibilities are the Department of Employment, Workplace Relations and Small Business, and the Department of Industry, Science and Resources. The roles of these agencies are described in turn.

#### **National Office of the Information Economy (NOIE)**

NOIE has the responsibility of setting a national direction for securing the future of the information economy. Essentially this role is three-pronged:

- to develop, coordinate and oversee broad policy relating to the regulatory and legal environment of online activities;
- to ensure a consistent Commonwealth approach in international forums; and
- to oversee the application of new technology to the business of government.

#### **Office for Government Online (OGO)**

OGO has the task of overseeing and monitoring a number of Internet-related activities, including:

- aspects of the Prime Minister's *Investing for Growth* statement—in particular as a catalyst in establishing the Commonwealth as a leader by delivering all appropriate services on the Internet by the year 2001;
- the Government Information Centre project, which will provide a single point of access to information about government services and is designed to complement the work being undertaken by DEWRSB in its Business Entry Point project; and
- implementing the Gatekeeper report. This report outlined the strategy for the use of public key technology for electronic transactions by Commonwealth agencies.

## **Attorney-General's Department**

The Attorney-General's Department has drafted the Electronic Transaction Bill, the objective of which is to provide a regulatory framework that:

- recognises the importance of the information economy to the future economic and social prosperity of Australia;
- facilitates the use of electronic transactions;
- promotes business and community confidence in the use of electronic transactions; and
- enables business and the community to use electronic communications in their dealings with government.

The simplified outline of the Bill states that '*for the purposes of a law of the Commonwealth, a transaction is not invalid merely because it took place by means of one or more electronic transactions*'. It states also that various requirements can be satisfied now in electronic form, including requests to give information in writing, provide signatures, produce documents, record information and retain documents.

## **Department of Employment, Workplace relations and Small Business (DEWRSB)**

DEWRSB is developing the Business Entry Point (BEP) project. The first components of BEP are to be a single registration process for Commonwealth agencies and a National Business Information Service (NBIS) Website. The registration process facilitates businesses' registering with the ATO, including applying for Tax File Numbers, and with the Australian Securities and Investments Commission. The NBIS Website will include business regulations and a range of other information.

## **Department of Industry, Science and Resources (DISR)**

DISR has carriage of two government initiatives, *Getting Government Online* and *Getting Business Online*. These initiatives expand on the policy framework outlined in *Investing for Growth*. The target of the business online programs is to ensure the Australian business sector is regarded, within five years, as a front runner in the adoption of online technologies at the global level and a leader in the ASEAN region<sup>29</sup>.

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<sup>29</sup> Department of Industry, Science and Tourism May 1998, Getting Business Online.

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