SIBIS – Workpackage 2:
Topic research and indicator development

Topic Report No.8:
E-Government

Tasks 2.1 (Update) + 2.2

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0   Overview

E-government plays an important function in mediating government actions. Its role will continue to grow as communications technologies become more widespread. Already, communications technologies change the way that government operates by facilitating information dissemination, communications, and transactions. E-government comprises a number of functions currently filled by traditional modes of communications. Transactions that today require face to face contact, letter writing, or telephone communication may soon be replaced by electronic interaction.

Member States have made a commitment to the development of e-government. To this end, governments have chosen to make e-government a reality by making government services more accessible and more efficient. However, because of the evolving nature of information technologies and telecommunications, the requirements of building e-government are still not being fully understood. Thus, it is not clear how expensive e-government will be or how long it will take to implement. Even so, the momentum continues to carry this process forward.

This report examines how the implementation of e-government is coming about. Because of its early stage of development, as each country devotes funds to e-government, it is not clear when or even whether a payoff of this investment will occur. In some areas, e-government already appears to be a worthwhile strategy, but generally it is still early and much remains to be learned. Even so, it can be said that the rapid pace of change in the use of information technology impacts government today.

Policy documents show how governments are choosing to orient their efforts on e-government. Many documents sketch out a view of what e-government could be. One aspect of e-government that is treated is the expectation that it will be used by all, or at least by many. In addition, these documents consider the opportunity to redesign government processes while implementing e-government.

Based on the Action Plan of the European Commission and the individual Member State Action Plans, three central tasks can be distinguished[1]:

• Electronic delivery of services ("Open Government"): increasing the quality of electronic government information.

• Citizen access to public information ("Customer orientated Government"): developing electronic services and "customer orientated" interactive service provision (authentication service, signature certifications, electronic forms, help desks and call centres, public e-mail and contact directories, job banks) and back office operations (transaction monitoring, information exchange, client feedback, etc.). Many administrative areas are concerned: land registry, taxes, passports, welfare and social service, revenue, etc.

• Improvement of internal working procedures within the central government but also between government agencies (regional representatives of ministries) and decentralised public authorities (regional and local authorities).

Because the success of e-government ultimately depends on its use, Part A of this document considers existing indicators of e-government usage. Some indicators have been developed but not yet tested. Because they have been explained already, we classify these as existing indicators although one might choose instead to classify them as indicators under development since they have not yet been validated.

The indicators identified consider access. In addition, they consider specific government services and the level of sophistication that these services have attained. Together these indicators provide one view of how e-government is progressing.

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[1]   Public strategies for the Information Society in the Member States of the European Union; OECD Science, Technology and Industry Scoreboard, 2001

In Part B of this report, a hierarchy of indicators is presented. This framework clearly identifies the parties involved in the elaboration of e-government. For each party, the potential of e-government is a dimension of interest. Complementary to this vision is a measure of usage that identifies barriers to usage, convenience of usage, level of usage and type of usage. The hierarchy is further analysed to define new indicators and suggest how they might be measured. This approach is followed for each of the parties: citizens, business and government. Existing indicators are mapped onto this hierarchy and gaps are identified. The gaps are the basis for proposed indicators. In each case, the proposed indicator is labelled according to its relevance to specific eEurope actions.

Individual indicators provide insights into the development of e-government. In certain instances, these indicators may be combined to give rise to composite indicators that give a better insight into the situation of interest. Existing composite indicators integrate measures of e-government achievement across individual government services. These are combined to show how well government responds to citizen and to business needs. Other composite indicators are suggested that show public service utility for each Member State by considering usage of e-government by specific means.

Another sort of composite indicator is explored by considering the similarity of existing indicators. In the case of barriers to e-government, for example, some of the indicators measure impediments to access while others point to a deficiency in skills. Individual indicators can be grouped to give composite indicators of barriers related to access and barriers related to skill level, respectively. The statistical validation of this approach is necessary before these composite indicators can be used.

P A R T   A   (D   2 . 1)

1   Introduction

1.1   Issues and Concepts

E-government plays an important function in mediating government actions and its role will continue to grow as communications technologies become more widespread. Already, communications technologies change the way that government operates by facilitating information dissemination, communications, and transactions.

By necessity, e-government comprises a number of functions currently filled by traditional modes of communications, while also offering the possibility for a new way of linking parties in government transactions. In some instances, transactions that today require face to face contact, letter writing, or telephone communication may be replaced by electronic interaction. This has the potential to facilitate and speed many processes. Citizens, operators of businesses and even government employees transacting government business will avoid standing in long lines and will perhaps be able to communicate with the government at any time of day or night. At the same time, governments and citizens will need to weigh the benefits of e-government against perceived or real dangers, such as loss of privacy and potential for fraud. In the same vein, the implementation of e-government should do more than merely map existing processes onto new technologies and instead force a re-evaluation of government interactions occur today and how they may be improved in the future.

The range of services that may be provided by e-government spans from simple information sites to fully interactive experiences where users and government engage in a dialog mediated by information technology. Examples of areas where government and citizens or businesses communicate include, among others:

- Access to laws, rules, and regulations

- Information on deliberations, minutes and decisions of City Council, regional, federal, European Parliament sessions.

- Personal and corporate income taxes

- Unemployment or disability compensation

- Social security

- Application for personal documents

- Car registration

- Application for building permits

- Declarations to the police

- Public libraries

- Change of address announcements

- Census bureau surveys

- Corporate taxes

- New company registrations

- Submission of data to statistical offices...

This list is by no means exhaustive and serves to illustrate areas where e-government has or will make its presence felt.

The successful implementation of e-government depends on how readily accessible government is via the Internet. It also depends on how citizens can be convinced to transact with government in new ways. When seeking information from government, citizens, businesses and other government agencies must be able to easily find what they need and be confident that whatever information is available on-line is current and accurate. When

providing information to government, all will want to feel secure in the knowledge that the information provided is recorded accurately and that their privacy is maintained. To that end, it is important to systematically analyse government links and to provide all with information regarding the level of security achieved.

Reactions to e-government may vary. Some welcome the application of improved ICTs to government, while others may view these developments with a certain degree of suspicion, fearing a loss of privacy.

Indicators of the success of e-government should not only look at the services that are provided by government but also at how citizens, businesses and governments make use of these services, what their expectations are and how they rate them (Tools to measure this can take on the form of a Citizens Satisfaction Survey, CSS). Indicators should point to areas where barriers exist to the adoption of e-government. They should also help understand the nature and extent of the barriers. Finally, indicators should suggest ways that e-government can improve.

PRISMA[2] proposes five steps with regard to the progression of e-government along which existing schemes can be evaluated:

1. Government entities post information about themselves,
2. Citizens and businesses are able to provide information about themselves,
3. Two way exchanges of information and value can occur between government and citizens or businesses,
4. A portal that integrates the complete range of government roles and paths to them based on need and situations rather than department or agency,
5. Digital democracy—transparent, open and accountable government.

Government operates on several different levels. As a result, it is necessary to split e-government into three categories:

• Government to citizen (G2C),

• Government to business (G2B), and

• Government to government (G2G).

In all cases, the relationship is between the two parties so that G2C designates just as well interactions that originate with government as with the citizen. Likewise, G2B designates interactions between businesses and government. G2G is self-explanatory.

1.2   Aims of the deliverable

Part A of this document provides a method to assess the success of e-government implementation. A review of data sources shows what information is already available to measure the success of e-government. New indicators are suggested where information is lacking.

The main activity of Deliverable 2.1 is a "Topic research", in order to provide a well-structured and concise overview of the "state of the art" in the topic of competence (in this case "e-Government). Through this activity WT 2.1 will identify main policy issues and existing indicators relevant to these issues, highlighting also the gaps to be filled .

The work will largely rely on literature review of policy documents and scientific publications. Therefore, it will strongly be based on WP1 (mostly WT 1.2 and WT 1.3), starting point and

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input to WP2: policy documents described in WT 1.2 of WP1 will be considered and re-analysed, as well as statistical documents described in WT 1.3 of WP1

The deliverable comprises the following work tasks:

- Setting down a report on the topic research activities
- Setting down a list of most relevant issues and key dimensions of the Information Society for which new statistical indicators are to be developed
- Proposing a set of definitions for required statistical indicators along the lines of the e-Europe objectives.
- Proposing a set of definitions for composite indicators, if possible.

1.3   Description of work tasks

The research leading to this document began with an expanded review of policy documents on e-government. These were initially obtained from previously identified sources noted in WP 1. Additional documents were identified following a search of keywords online. The expanded list of documents is provided here along with an analysis of their contents. In addition to studying documents relevant to Europe, policy documents from countries viewed as leaders in the field of e-government were analyzed. In all cases, the relevance of the documents to SIBIS is noted.

In the process of collecting documents for this analysis, the greatest impediment was the continued change in the way that documents can be accessed online. As a result, the use of universal resource locations (URL) that were provided earlier sometimes failed to produce the desired documents. This necessitated new web searches to identify the new locations.

From the identification and classification of existing indicators, the following eEurope action lines are being addressed with respect to e-government:

- 1a-4 Availability of low-cost, high-speed networks for Internet access;
- 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible;
- 3b-2 Member states to provide generalised electronic access to main basic public services by 2003.
- 3b-3 Develop a co-ordinated approach for public sector information, including at European level by the end of end 2000.
- 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union Member States during 2001.

Some indicators have been identified that already exist, but have not yet been tested. It is not clear whether these should be considered existing indicators or ones under development. If they are under development, they address the following action lines:

- 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible;
- 3b-2 Member states to provide generalised electronic access to main basic public services by 2003.
- 3b-3 Develop a co-ordinated approach for public sector information, including at European level by the end of end 2000.
- 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union Member States during 2001.

From the literature review, two important themes emerge with respect to e-government. These are (1) accessibility and usability, and (2) openness and effectiveness. Depending on the measure—accessibility and usability, or openness and effectiveness, different countries emerge as clear leaders. Indicators in the literature examine e-government interactivity and measure the openness of e-government.

Looking at policy documents on e-government, the general policy objectives are:

- Ensuring a cheaper, faster, secure Internet;
- Investing in people and skills;
- Stimulating the use of the Internet.

With respect to e-government, the objective is to ensure the electronic access to online public government services. Individual country reports focus on understanding the impact of ICT on government, strengthening the coordination function of ICT, and improving the foundation of e-government to ensure that it operates smoothly. Because e-government is not just the implementation of existing government on an electronic platform, some countries are reorganizing government to reflect this.

1.4 Structure of Part A

Part A is divided into 6 main sections:

1. The current introduction, aimed at offering a general overview of the work.

2. A literature review based on WP1.3 and 1.4 of WP 1. Flowing from the contributions offered in these parts of WP 1, this chapter goes in greater depth, extrapolating the key issues as they emerge from statistical documents relevant to e-Government. A second part of the review is engaged in highlighting the existing indicators, without, however, describing them in detail, since this will be a task of Ch. 4.

3.   A policy documents review, concerned mainly with policy documents relevant to e-Government as they emerge from Ch. 1.2 of WP 1. While an overview of the documents is offered, also a brief description of the contents and objectives is given, as they emerge from WP 1 (mainly the document abstracts). The review is split up in 3 paragraphs, relevant to the different areas of interest within the security and trust topic:

    - Policy documents at a European level

    - Policy documents at a national level

    - Relevance of these documents for the SIBIS project as a whole

4. A review of existing indicators. The chapter is engaged in the identification of indicators presented in Ch. 2 of this WP as well as the gaps. Such work appears to be the inevitable starting point for Deliverable 2.2, where new indicators will be developed on this basis.

5. A final outline of the Topic report's findings that offers a summary of what emerged in the chapter. Its goal is to draw the attention on the relevant issues raised in order to point the way forward to the Worktask 2.2 (Part B), which is aimed at translating policy concerns into a coherent set of IS indicators for each of the nine topics.

6. The concluding section of the Deliverable is a detailed bibliography of the sources used.

2 Literature review

2.1 Main issues from the literature

Governments throughout Europe are creating a presence on the Internet as they build on a vision of e-government. This vision is based on an action plan presented in *e-Europe 2002*.

The Lisbon European Council conclusions call for:

- Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible.
- Member States to provide generalised electronic access to main basic public services by 2003.[3]

As pointed out in *e-Europe 2002*, however, the challenge faced by all levels of European government is not simply to create an online presence, but also to make this presence accessible and usable. The themes of accessibility and usability has been repeated and expanded on throughout the literature. Also of great importance are openness and effectiveness.

Many reasons exist to implement an e-government strategy. Reviews of e-government and its implementation provide a useful starting point to understand what benefits may flow from e-government.[4] These include:

- more cohesive and responsive service to the public;
- lower service provision and overall costs for government;
- less paperwork;
- benefits of improved access to information;
- lower administrative transaction costs for government and industry;
- transparent government;
- a better perception of government as more cohesive, accessible and responsive;
- breaking down the barriers of geography, demographics, individual skills and knowledge, and ability to pay.

Understanding all the potential benefits of e-government requires being able to measure the impact of these benefits in an objective way. Thus, for example, it would be useful to understand whether e-government is cheaper to operate than traditional government. This can be learned in other ways than by statistical indicators, since a survey may not always be necessary to determine the cost of providing government services using e-government compared to doing so the "old" way.. Another benefit of e-government that has been studied without relying on statistical indicators looks at the arrangement of government's "face online" to take into account transparency. Other potentials of benefits of e-government lend themselves easily to characterization by statistical indicators. Among them are issues of cohesiveness, accessibility, and perceived responsiveness.

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[3] Council and the European Commission for the Feira European Council, *eEurope 2002, An Information Society for All, Action Plan* (June 2002). Available on the EU web site: http://europa.eu.int/comm/information_society/actionplan/index_en.htm

[4] William Heath, Europe's Readiness for e-government. Kable Limited 2000.

2.1.1   Commitment of Member States to e-Government

Understanding whether e-government impacts the cost of running government requires knowledge of the resources that government are devoting to public sector spending on IT. Based on this measure, the various countries of the EU show differing levels of commitment. Looking at raw numbers, Germany, the UK and France are in the lead and Portugal, Greece and Ireland trail. The level of investment ranges from 13 000 million Euros to 467 million Euros. This figure fails to take into account the varying populations of the EU nations. The per capita investment shows Denmark, Sweden and Finland in the lead with Portugal, Spain and Greece trailing. The difference in spending between those countries in the lead and those trailing is significant, with Denmark spending 317 Euros per person, while Greece spends only 44.[5]

The EU nations have chosen to take a long-term view of e-government. Individual States recognize that establishing and e-government presence will require financial commitments that may not pay off for some time. Savings are beginning to appear in specific sectors of government, but it is too early to estimate the full impact of e-government on the cost of running government.

Early forms of telecommunications influenced the way that government is conducted. One effect was the compression of time and space, since information that previously required days to travel from one location to another could be transmitted or conveyed in seconds or minutes. E-government may also make its influence felt in areas where information access and transfer are critical. A financial commitment to establishing e-government may not be sufficient, however. This is because unless government presence online is obvious and easy to understand, no one will benefit from it. Accessibility and usability are critical.

2.1.2   Accessibility and Usability

The issue of accessibility is taken up and expanded by the European Commission in *e-Europe 2002*. General accessibility goals state that: "Public sector web sites and their content in Member States and in the European Institutions must be designed to be accessible to ensure that citizens with disabilities can access information and take full advantage of the potential for e-Government." Ensuring accessibility will be implemented by "[a]doption of the Web Accessibility Initiative (WAI) guidelines for public sector web sites" and the "[r]eview [of] relevant legislation and standards to ensure conformity with accessibility principles." by the end of 2002.[6]

The WAI guidelines originate with the World Wide Web Consortium (W3C), which is sponsored by the European Union, the United States government and the Canadian government in addition to private sector sponsors. The mission of W3C is to "lead the Web to its full potential [that] includes promoting a high degree of usability for people with disabilities."[7] Accessibility is treated in more detail as a separate topic, but it is worth noting what some of the WAI guidelines may entail, as this will influence the discussion of indicators related to e-government.

> *"The WAI Technical Activity addresses barriers to Web accessibility on several levels. First, it seeks to ensure that the core technologies of the Web are accessible, including HTML, CSS, XML, SMIL, SVG, and DOM. Barriers exist when these technologies lack features needed by users with visual, hearing, physical, or cognitive disabilities. For instance, in order for a multimedia presentation to be accessible to someone with a visual disability, the mark-up language for the presentation must support text equivalents for images and video;*

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[5]   ibid

[6]   *eEurope 2002: An Information Society for All.* http://europa.eu.int/information_society/eeurope/index_en.htm

[7]   Mission Statement of the Web Accessibility Initiative. See, http://www.w3.org/WAI/about.html.

> *the multimedia player used must allow access to the text equivalents; and the content author must make appropriate text equivalents available. The text equivalents may then be rendered as speech or braille output by the user."*

It is clear from the WAI Technical Activity that accessibility has more than one dimension. In broad terms, accessibility suggests the absence of barriers. While this can be interpreted to mean that sight impaired individuals should not be prevented from participating in e-transactions, it also implies a measure of backward compatibility with new systems. Methods to provide information online will continue to evolve, yet it is expected that older means of retrieving online information should continue to function in an evolving environment.

Usability, like accessibility, is a very broad term and a definition is necessary for consistency. Based on a review of the literature, usability reflects an understanding of what are the needs and who are the users.[8] This definition may appear too vague to be useful until one realises that usability is analogous to ergonomic design. By building an understanding of what the intended use of a website is one gains a sense of how to design it, just as one does with any other tool.

Specific issues associated with usability and accessibility have been discussed in the literature. They range from understanding the legal aspects of accessibility to what it means to make a site accessible. Appropriate modifications to Websites will ensure that they become accessible to everyone. These may include ensuring that problems with vision do not prevent users from participating in e-government because they cannot see information on-line. In addition, users should not encounter barriers to inputting information. Finally, websites should be designed so they can be accessed regardless of the users' technology, thus ensuring that those who do not have access to the latest versions of Web access software are not shut out.[9]

2.1.3   Openness and Effectiveness

Accessibility and usability apply to all uses of information and communications technologies. Openness and effectiveness are particularly relevant to e-government, since they are critical to its successful implementation. Studies have been presented that seek to compare the openness and effectiveness of government websites throughout the world. The Cyberspace Policy Research Group (CyPRG) evaluates the diffusion and use of the World Wide Web in government, which can serve as a proxy for e-government. The main focus of CyPRG is on openness and internal effectiveness.

CyPRG ranked the e-government presence of countries according to openness and effectiveness.[10] Based on these criteria, Denmark is ranked first, closely followed by the United States. At the other extreme in Scandinavia is Sweden, which ranks at about the same level as Egypt, India and Uruguay. Other Nordic countries fall within this range. Surprisingly, Finland has a more modest national government web presence than might have been predicted from the vigour of its commercial and local Internet activity. Some governments tend to score better in one category than the other. Thus, Canada's government has consistently been more interactive than transparent, while Australia's agencies have been the just the opposite. Neither are as open as the United States, despite these countries' cultural and institutional similarities. Understanding the reasons for the difference in openness and effectiveness of the e-government presence of various countries is not always straightforward, however.

Generally, the levels of openness and effectiveness observed by CyPRG do not appear to relate significantly to levels of democracy or regime type, and only weakly to the level of economic development. Middle Eastern nations have few sites but those that they have are often more open than sites in more advanced nations. Traditional regime typologies and

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8   Accessibility and Usability for e-Government. A Primer for Public Sector Officials. frontend.com. November 2000.
9   frontend.com. *Accessibility & Usability for e-Government, A Primer for Public Sector Officials.* November 2000.
10 The following discussion is based entirely on: The Cyberspace Policy Research Group. Webbing Governance: Global Trends across National Level Public Agencies. Published in *Communications of the ACM*, January, 2001.

categories such as families of nations or types of democratic states do not do a very good job in grouping affiliated countries together. Similarly, France is among the leaders in openness, though its strong static traditions and traditional administrative structures are not known for their transparency to citizen scrutiny, and even Parliament is largely a bystander in the policy process.

Barriers to the development and implementation of e-government may, in some instances, reflect the unwillingness of a country to open up its government. In other instances, however, a government may be eager to create an e-government strategy, but may find that legacy systems stand in the way. The cost of implementing an e-government strategy may be prohibitive because of the change of architecture required to do so. Existing mainframe computers may still be in use and may not be easily configurable to operate on the Internet. Because of budget constraints, decisions to upgrade computer systems may be deferred, thus delaying the establishment of e-government.

Governments are aware of the potential that ICTs offer in improving operations and responsiveness. At times, however, technologies already in existence in government facilities can be an impediment to implementing e-government. This is the case, for example, when government agencies rely on extensive installations of legacy systems. Thus, although on average 45 percent of governments rate technology as a top enabler to improving customer service, 32 percent also find that their legacy systems are a major obstacle – more so than even project costs, staff expertise, administrative processes or legislative mandates, according to a survey conducted by Deloitte Research. Particularly hard felt in New Zealand and the U.S., the problem plaguing many governments is that much of their current technology is just not able to support the improvements that need to be made. Old systems are neither equipped to handle drastically increased transaction volumes nor designed with the flexibility required for retrieving and processing data from many sources inside and outside the government's walls. Moreover, inflexible system architectures put a sever limit on the growth potential of e-Government.[11]

2.1.4   Ascertaining the Use of e-Government

EU States have committed to making e-government a reality. Financial measures are available that will help gauge the level of commitment. E-government is still being created, and the total cost of its implementation cannot be measured yet. In addition, it is too early to try to quantify the return on investments in e-government.

Looking at the face of e-government is already making a difference in its implementation. E-government works better in some applications than in others. This is borne out by the comparison between how different countries throughout the world are approaching the challenge of building a presence online.

A commitment to investing in e-government can be considered the first step in building a presence online. Making sites that work is the second step that is necessary. The first ensures that access will exist and the second that accessibility is built into the process. The true test of e-government is whether or not it is used. Statistical indicators provide one way to measure this.

2.2   *Indicators from the Literature*

Existing reports often cite statistical indicators to test hypotheses or to support conclusions. The types of indicators used depend on the particular area that the research considers. Some indicators cited are extremely broad and apply across a wide variety of fields. These may not always be helpful for a detailed analysis of a given topic. More specific indicators are

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[11]   Deloitte Research. *At the Dawn of e-Government, The Citizen as Customer.* Deloitte Consulting (2000).

sometimes lacking and the broad indicators can point to new indicators that need to be developed. Other times, specific focused indicators exist that can provide pertinent information.

2.2.1 Indicators That Examine e-Government Interactivity

Among the most general indicators applicable to e-government are the percentage of the population who regularly use the Internet and the percentage of households with Internet access at home.[12][13] While these provide useful starting information for any study of e-government, they are too broad to give any insights beyond the most basic.

More sophisticated measures of e-government performance include the percent of Internet users visiting government sites. These may be further classified according to the types of interactions, such as: finding or downloading information, e-mail enquiries, and submission of forms.[14] Similarly, one can consider the percentage of municipalities with an on-line presence.[15] Proposed e-government benchmarking includes:

• percentage of public services online,

• use of these online services by the public, and

• percentage of e-procurement.

Further information might be gathered by considering 20 examples of services or applications. The services or applications would then be rated according to whether they represent information, one-way interactions, two way interactions, or transactions. Surveys, including citizen satisfaction surveys, would occur twice per year.[16]

A more sophisticated set of indicators was developed to determine the level of interactivity that e-government has reached for basic government services. These are organized by whether they fall under the category of government-to-citizen or government-to-business. Each service is rated according to a four-level scale, where each level suggests a different level of sophistication in the service[17]:

• Stage 1 Information: online info about public services,

• Stage 2 Interaction: downloading of forms,

• Stage 3 Two-way interaction: processing of forms, incl. authentication,

• Stage 4 Transaction: case handling; decision and delivery (payment).

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[12] Liste des indicateurs d'étalonnage pour le plan d'action eEurope. (List of eEurope Benchmarking indicators). 20 November, 2000. http://europa.eu.int/information_society/eeurope/benchmarking/indicator_list.pdf

[13] An intriguing addition to statistics on internet access at home include MINITEL in France because this technology suggests a relatively high 'online literacy' of the French population that occurred before the adoption of the Internet in that country.

[14] Eurobarometer (February 2001) cited in eGovernment and eEurope presentation. http://europa.eu.int/information_society/eeurope/benchmarking/list/2001/index_en.htm

[15] Eurobarometer (April 2000) cited in eGovernment and eEurope presentation. http://europa.eu.int/information_society/eeurope/benchmarking/list/2000/index_en.htm

[16] e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001. http://europa.eu.int/information_society/eeurope/news_library/pdf_files/communication_en.pdf

[17] eGovernment indicators for benchmarking eEurope. 22 February 2001. http://europa.eu.int/information_society/eeurope/action_plan/pdf/egovindicators.pdf

	Public Services for Citizens	**Stage**					
		Max. Stage	0	1	2	3	4
1.	Income taxes: declaration, notification of assessment	(4)					
2.	Job search services by labour offices	(3)					
3.	Social security contributions (3 out of the following 4): • Unemployment benefits • Child allowances • Medical costs (reimbursement or direct settlement) • Student grants	(4)					
4.	Personal documents (passport and driver's licence)	(3)					
5.	Car registration (new, used and imported cars)	(4)					
6.	Application for building permission	(4)					
7.	Declaration to the police (e.g. in case of theft)	(3)					
8.	Public libraries (availability of catalogues, search tools)	(3)					
9.	Certificates (birth and marriage): request and delivery	(3)					
10.	Enrolment in higher education / university	(4)					
11.	Announcement of moving (change of address)	(3)					
12.	Health related services (interactive advice on the availability of services in different hospitals; appointments for hospitals)	(4)					

	Public Services for Businesses	**Stage**					
		Max. stage	0	1	2	3	4
1.	Social contribution for employees	(4)					
2.	Corporation tax: declaration, notification	(4)					
3.	VAT: declaration, notification	(4)					
4.	Registration of a new company	(4)					
5.	Submission of data to statistical offices	(3)					
6.	Customs declarations	(4)					
7.	Environment-related permits (incl. reporting)	(4)					
8.	Public procurement	(4)					

2.2.2   Indicators That Measure Openness of e-Government

The indicators presented so far concern the interaction between the user and the provider of e-government. Other studies have sought to determine why e-government may be more effective or more successful in some places than in others. In doing so, these studies look at aspect of the e-government experience, such as the organization of the web sites and their operation. Hypotheses were stated and they were tested by looking at a collection of government websites throughout the world.

Hypothesis	Finding
1. National income	strong correlation
2. Central government expenditures	--
3. Integration with world economy	weak support
4. Science, research and education	--
5. Computers and Internet hosts	weak support
6. Cultural values	--
7. Democracy	--
8. Legal system	--

When these variables are assessed using CyPRG data, a combination of national income and globalization are the only significant identified factors influencing openness. However, they account for about a quarter of the observed variance in the both OECD and non-OECD nations. Global linkages also play a role in explaining openness, but this is likely to be related to national income, since the world's wealthier countries tend to have more liberal trading regimes. None of the other hypotheses are supported by CyPRG data. [18,19]

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[18]   La Porte, Todd M, de Jong, Martin, Demchak, Chris C., Public Organizations on the World Wide Web: Empirical Correlates of Administrative Openness. Presented at the National Public Management Research Conference Program Bush School of Government and Public Service, Texas A&M University. December 3, 1999. Submitted to Administration & Society.

[19]   The Cyberspace Policy Research Group. Webbing Governance: Global Trends across National Level Public Agencies. Published in *Communications of the ACM*, January, 2001.

3 Policy Documents

3.1 Overview Of Policy Documents On e-Government

In this chapter, we present documents that provide insights into the policy issues associated with the development and implementation of e-government. Initially, we examine documents that treat e-government from a pan-European perspective. These are particularly relevant in view of the increasing ties between European nations. Next, we consider documents that treat the issue of e-government from the perspective of individual countries. Documents origination from the UK and the Netherlands provide useful insights from a European point of view. For comparison, we consider policy documents that deal with Singapore, which is identified as another leading country in the implementation of e-government. The selection of the documents has been based on the relevance for policy actions and decisions regarding e-Government. Due to the fast developments in the ICT market, documents dated before 1999 have been deleted from the list.

3.1.1 Overview table

The following table provides an overview of the policy documents relevant for e-Government. The short descriptions that follow in 3.1.2 will focus on the objectives of the policies defined in the document. More details about the documents can be found in WP1.2.

Title of Document	Region	Publication date	Type of Document
1. eEurope. An Information Society for All	EU	March 2000	Report
2. eEurope 2002 Action Plan	EU	June 2000	Action Plan
3. eEurope Key Indicators	EU	November 2000	Report
4. eEurope Targets 2000	EU	December 2000	Evaluation
5. The eEurope 2002 Update	EU	December 2000	Evaluation
6. Progress on eEurope actions – staff paper	EU	December 2000	Evaluation
7. eEurope 2002. Impact and Priorities	EU	March 2001	Report
8. ISF 3rd annual report "A European Way for the Information Society"	EU	2000	Report
9. "Public Strategies for the Information Society in the Member States of the European Union"	EU	2000	Report
10. Electronic Government Action Programme	The Netherlands	1999	Action Plan
11. The Digital Delta 'Nederland oNLine'	The Netherlands	1999	Report
12. Towards optimum availability of public sector information	The Netherlands	April 2000	Report
13. Contract with the future	The Netherlands	May 2000	Report

Title of Document	Region	Publication date	Type of Document
14. The Digital Delta: beyond e-Europe	The Netherlands	October 2000	Evaluation
15. The Digital Delta: monitor e-Europe actions	The Netherlands	October 2000	Report
16. International ICT Benchmark 2000	The Netherlands	October 2000	Evaluation
17. 25% Electronic public service delivery in the Netherlands	The Netherlands	March 2001	Evaluation
18. Modernising Government White Paper	UK	March 1999	Other
19. e-government: a strategic framework for public services in the Information Age	UK	April 2000	Other
20. "e-Government: Ready or Not?"	UK	July 2000	Evaluation
21. "e.gov: electronic government services for the 21st century"	UK	September 2000	Report
22. Successful IT: Modernising Government in action	UK	2000	Evaluation
23. The Singapore e-Government action plan	Singapore	2000	Action Plan
24. Managing for excellence	Singapore	2000	Documentation

Table 3.1: overview policy documents e-Government

The following short abstracts give a brief description of the policy documents. The main focus lies on the policy objectives set in the documents.

3.1.2   Policy documents for Europe and individual countries– short abstracts

e-Europe

General policy objectives set in the e-Europe documents 1-7:

• Ensuring a cheaper, faster, secure Internet
• Investing in people and skills
• Stimulating the use of the Internet

e-Government specific policy objective e-Europe:

• Government online: electronic access to public services

1. eEurope an Information Society for All
Communication on a Commission Initiative for the Special European Council of Lisbon, 23-24 March 2000.

2. eEurope 2002 Action Plan
The Action Plan defines the necessary measures in order to ensure that the targets set by the Lisbon European Council of March 23/24 2000 will be reached.

3. eEurope Key Indicators
Identification of first list of benchmarking indicators, to be able to measure the results of the actions taken. Same policy objectives as mentioned in the Action Plan and Targets 2000.

4. eEurope Targets 2000
Overview of the actions addressed by the member states in order to implement the *e*Europe Action Plan and reach the objectives set.

5. eEurope 2002 Update
This report provides a brief overview of progress made regarding the eEurope actions and highlights the remaining challenges.

6. Progress on eEurope actions – staff paper
This report provides detailed tables of progress made by the European institutions since the European Council endorsed the eEurope Action Plan.

7. eEurope 2002 Impact and Priorities
Evaluation of the impact and priorities of the eEurope actions. Aim to accelerate the development of the information society in Europe and to ensure its potential is available to everybody - all Member States, all regions and all citizens.

8. ISF 3rd annual report "A European Way for the Information Society"
The report discusses the need of a new framework of international rules and governance to build a sustainable information society. The policy objectives set are:

- "Globalisation with a human face"
- Strengthening European competitiveness
- Ensuring access to "vital information" (information that determines full participation of the citizens to society, full exercise of their democratic rights and satisfaction of their essential needs for education, health, protection against discrimination etc.)
- Achieving a sustainable information society
- Internet for all
- Speed up the role of the public sector
- Defend consumer's and citizen's rights in the IS

9. Public Strategies for the Information Society in the Member States of the European Union
The report provides an overview of the public strategies for the information society in the member states of the EU where IS is considered to be a major priority. Objectives:

- Awareness and wide spread use of ICT
- Limited intervention by governments
- Develop digital skills
- Enhance accessibility
- Enhance confidence

Dutch policy documents

eGovernment specific policy objectives set by the Dutch Government:

- Improve electronic accessibility of the government

- Improve public services
- Improve internal conduction of business of the government

10. Electronic Government Action Programme
This action program is a follow-up of the NAP (National Actionprogramme Electronic Highways) and creates an impulse to increase the quality and service, efficiency and effectiveness of the public services by using ICT.

11. The Digital Delta 'Nederland oNLine'
The policy-report "The Digital Delta" identifies five important issues for creating an optimal situation for the Netherlands on its way to an information society (the (tele)communication infrastructure, knowledge and innovation, accessibility and capabilities, regulations, ICT in the public sector).

12. Towards optimum availability of public sector information
The objective of this memorandum is to develop a framework for the commercial use of public sector databases and a more precise definition of the term 'basic information of the democratic constitutional state'.

13. Contract with the future
This policy document sets a vision for the role of government in the information society and announces a number of exploratory surveys and actions.

14. The Digital Delta: Beyond e-Europe
This document gives an overview of the progress made in the Netherlands by the government on several eEurope actions.

15. The Digital Delta: monitor e-Europe actions
This document gives an overview of the status of the actions identified in the policy document "The digital delta, Nederland Online". It also identifies new actions and initiatives.

16. International ICT Benchmark 2000
This report is the first integrated reporting about the power of the Dutch ICT-base in comparison of the ICT-top worldwide. The benchmark compares the Dutch position with other countries, on the base of the five issues identified in the policy document "De Digitale Delta".

17. 25% Electronic public service delivery in the Netherlands
The Netherlands Economics Institute (NEI) has carried out a zero measurement. This zero measurement relates to the efforts of the present government to make available at least a quarter of all public services electronically by 2002. The zero measurement involves calculation of the percentage of electronic services provided by the government sector.

UK policy documents

The UK policy sets out three objectives in modernising government:

- Ensuring that policy making is more joined up and strategic;
- Making sure that public service users and not providers are the focus, by matching services more closely to peoples lives;
- Delivering public services that are high quality and efficient

18. Modernising Government White Paper
Modernising government is a long-term programme of reform. It puts in place a number of important initiatives and sets out an agenda for the future.

19. e-government: a strategic framework for public services in the Information Age

This report outlines a strategic framework for public services in the Information Age. It fulfils the commitment in the Modernising Government White Paper to publish a strategy for Information Age Government.

20. "e-Government: Ready or Not?"
This report looks at e-Government from two sides. Firstly, from the views of managers who have to deliver the government's strategy for improving access to public services via electronic service delivery across the public sector. Secondly, it looks at what the public wants and expects.

21. "e.gov: electronic government services for the 21st century"
This report sets out a comprehensive and radical strategy for implementing government electronic service delivery (ESD) to the citizen. Objectives:

- ensuring that government electronic service delivery is driven by the use that citizens make of it

- opening the electronic delivery of government services to the private and voluntary sectors

- putting in place new incentives, levers and institutional structures to make sure the transformation happens

22. Successful IT: Modernising Government in action
This report sets out a package of measures to help the UK to deliver effective modernisation through IT. It points out recommendations for improving performance.

Singapore policy documents

23. The Singapore e-Government action plan
The document outlines strategies and initiatives to be taken in order to allow Singaporean citizens to obtain main public services online, innovate radically the public sector's capability etc. Policy objectives:

- Improve electronic service delivery

- Building new capability and new capacity

- Experiment with new technologies, with a view to learning and developing capability

- Public sector anticipation and trend-setting

- Developing though leadership on e-Government

24. Managing for excellence
This e-Government brochure outlines the Singaporean strategic thrusts, in order to let Singapore become a main leading e-Government in the world. Policy objectives:

- "Re-inventing" Government in the digital Economy
- Delivery of integrated electronic services
- Being proactive and responsive
- Using "Infocomm technologies" to build new capabilities and capacities
- Innovating with "Infocomm technologies"

3.2 Policy documents relevant for e-Government at European level

This section will provide an overview of the main policy documents related to e-Government at European level. The focus will be on identifying the main issues and the relations to the SIBIS project.

3.2.1 E-Europe actions e-Government

Within the e-Europe Action Plan 2000-2003 seven separate actions for e-Government are set. The year between the brackets indicate the deadline for finishing the action:

- Develop a co-ordinated approach for public sector information, including at European level (2000)
- Promote the use of open source software in the public sector and e-Government best practice through exchange of experiences across the Union (through the IST and IDA programmes) (2001)
- All basic transactions with the European Commission must be available online (e.g. funding, research, contracts, recruitment and procurement) (2001)
- Promote the use of electronic signatures within the public sector (2001)
- Essential public data online, including legal, administrative cultural, environmental and traffic information (2002)
- Member States to ensure generalised electronic access to main basic public services (2002/3)
- Simplified online administrative procedures for business e.g. fast track procedures to set up a company (2002).

The responsible European Commission, Member States and the European Institutes have started pilot projects and launched studies and working programmes (IDA) to ensure that the actions will be implemented in the European Union within the proposed time frame.

e-Europe Key indicators e-Government
The main goal of SIBIS is to develop and pilot statistical indicators for monitoring progress towards the Information Society, taking full account of the e-Europe Action lines set up in the Action Plan. Initial statistical indicators are already written down in an e-Europe document dealing with Key Indicators. For the e-Government part a study by the European Commission in co-operation with the Member States was produced containing three key indicators for e-Government:

- Percentage of basic public services available online
- Public use of government on-line services - for information/for submission of forms
- Percentage of public procurement which can be carried out on-line.

3.2.2 Central tasks

Based on the Action Plan of the European Commission and the individual Member State Action Plans, three central tasks can be distinguished[20]:

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[20] Public strategies for the Information Society in the Member States of the European Union OECD Science, Technology and Industry Scoreboard, 2001

- Electronic delivery of services ("Open Government"): increasing the quality of electronic government information.

- Citizen access to public information ("Customer orientated Government"): developing electronic services and "customer orientated" interactive service provision (authentication service, signature certifications, electronic forms, help desks and call centres, public e-mail and contact directories, job banks) and back office operations (transaction monitoring, information exchange, client feedback, etc.). Many administrative areas are concerned: land registry, taxes, passports, welfare and social service, revenue, etc.

- Improve internal working procedures within the central government but also between government agencies (regional representatives of ministries) and decentralised public authorities (regional and local authorities).

3.2.3   Progress

- The majority of ministries and public agencies are now present on the Internet and Governments have issued guidelines and rules concerning the dissemination of public information. Government Internet Portals and one-stop-shops are also being implemented, e.g. www.overheid.nl in the Netherlands and www.ukonline.gov.uk in the United Kingdom.

- Several Member States are developing Public Key Infrastructures (PKI), personal public service numbers (on the model of social security numbers) and Public service cards or electronic identity cards.

- Many governments implement cross-government knowledge management systems and Intranets, embedding Knowledge Networks in operational practice.

3.2.4   Communication flows

Picture 3.1 tries to organise these areas for e-Government initiatives in terms of a map of possible communication flows:

- G2G: back office introduction of ICT, intra- and intergovernmental exchange, government networks, standards, expertise

- G2B: delivery of business services and information, e-Procurement (tendering), sales of government-owned business-relevant information

- B2G: filing of business registration information, taxes, regulatory information, etc.

- C2G: citizen information provision, tax filing, citizen reporting, electronic voting (e-Democracy), follow-up on ESD, vehicle licensing

- G2C: provision of public information and transparency/FOIA information (both passive and active (in response to specific requests) about government workings and performance, electronic service delivery (including 'one-stop-shops')
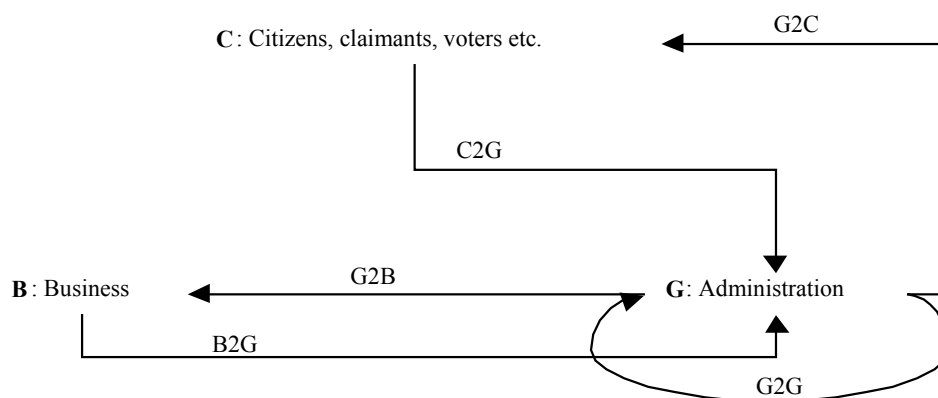
Figure 1:map of possible communication flows e-Government

3.2.5   An European Way

ISF, the Information Society Forum which gives advice to the European Commission, stated in a recent report (*'An European Way for the Information Society'*) that the European nations share some fundamental ideas about the role of the public sector, government and other parts of the state in society. Though there are of course differences, they consider that this conception of the public sector is an important part of the European Way. Compared to other parts of the world, in Europe:

•   a much larger proportion of services to the population is operated by governmental or semi-governmental bodies - for example in health-care, education, culture, and public transport;

•   the state is much more involved in regulatory activities intended to secure or sustain citizens' well-being - for example environmental protection, consumer protection, privacy issues and labour conditions;

•   there is a prevailing conviction that the needs of the population cannot be satisfied by the market alone - the individual, as a user of public services, has to be dealt with as more than a mere customer.

They therefore claim that there is such a thing as a European culture of public service. A capable, efficient and effective public sector is a vital necessity to ensure sustainability, quality of life, social solidarity, cultural diversity and economic cohesion. Regulation is fundamental, particularly in ensuring equitable access to ICT and to information. Provision for "universal service" in telecommunications is vital, as is "public service" content.

The ISF insists that the information society requires radical behavioural and organisational change in the public sector. It implies a transformation of mentalities and working methods. The public sector must, for example, develop models of networked administration which integrate what are now separate divisions with each other and with external partners and stakeholders. This means that horizontal approaches must replace the classic hierarchical pattern of administrative structures, and requires more flexibility in working environments.

People will increasingly demand that fragmented administration be replaced with global and coherent responses to their needs and demands. Such a "single window" to the public sector as a whole will require the common action of all public actors, in partnership where needed with private actors. As a minimum, all involved in service provision to the population will have to integrate their different activities within inter-operable information systems.

Throughout Europe there is a strong move towards decentralisation of decision processes. Efficient application of the principle of subsidiarity - locally, regionally, nationally and at the European level - will require more networking between these various levels. Success in

applying ICT to this will be another feature of the European model. This integration will require harmonisation and implementation of standards for:

- interconnection and interoperability of information systems;
- commercial practice;
- rights and responsibilities relating to consumer protection, authenticity, intellectual property, copyright and authors' rights, taxation, liability and legal remedies.

3.3   Policy documents relevant for e-Government at national level

The countries included in this section are the countries that are within the SIBIS-project identified to be the 'leading' countries in the developments of e-Government: the Netherlands, United Kingdom and Singapore.

3.3.1   e-Government in the Netherlands

The Netherlands is an advanced ICT country and in certain areas it scores amidst the leading ICT countries worldwide. In the field of public sector ICT the Netherlands are not among the frontrunners. There is a reasonable foundation (back-office, presence and information on the Internet), but it is clearly less solid among smaller municipal authorities. [21].

The White paper "The Dutch Digital Delta" set out the government's targets for ICT and aims for making the Netherlands into one of the ICT front runners. Those targets are a reformulation and adjustment of the actions and targets mentioned in the Electronic Action Government programme.

The Dutch Digital Delta

This report identifies five important issues for creating an optimal situation for the Netherlands on its way to an information society:

- the (tele)communication infrastructure
- knowledge and innovation
- accessibility and capabilities
- regulations
- ICT in the public sector.

Especially the fifth pillar is of importance for e-Government. The ambition set for ICT in the public sector is:

> *An effective and efficient public sector through optimised use of ICT. Service provision and accessibility must as far as possible take place electronically*

Apart from making government information available on a larger scale, the government's role is:

- To improve service provision to citizens and firms;
- To improve internal performance of the government by ICT;

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[21]   The Dutch Digital Delta, beyond e-Europe, October 2000

- To formulate more visibly the government's (model) role as an ICT player on the ICT market.

The ambition of the Dutch government is to make available at least 25% of all public services electronically by 2002.

The government is working along several lines to improve the deployment of "ICT in the public sector". The following progress overview gives a description of the actions, status and progress of the three government roles set[22].

E1 - Improving external services

Description	Status end 2000	Further Actions & Realisation
1. Improved accessibility to government	Three demonstration projects launched at end of 1999: national network demand-orientated physical and virtual counters on • Business • Construction & Living • Health care & welfare	Implementation in period to 2002; electronic (model) unit and other instruments in development to improve provision of public services
2. Improved accessibility to government information	www.overheid.nl operational since September 1999; version2 in 2000	Next step: accessibility of parliamentary proceedings and laws and regulations in 2001
3. Development of government information on Internet	Subsidy scheme for administrative information and subsidy scheme for issuing municipal product catalogue implemented in 2000	Completion of subsidy schemes in 2001
4. Studies into impact of ICT on performance of democracy and government organisations	Study on Internet and Public Administration completed in 2000	Additional studies in the context of: • Proactive service provision • ICT in practice • The ITAFIT programme

E2 – The internal performance of the government

Description	Status end 2000	Further Actions & Realisation
5. Development of government infrastructure	In development; pilot version of government intranet	In 2001 most government officials must be connected. More extended version available in 2002.
6. Enlarging number of authentic registrations	Policy framework with which authentic registrations must comply; Run-up phase completed and implementation phase started in four areas: • Buildings • Businesses • Social insurance • Geographical core data	Additional strategic studies to examine desirability of similar projects (in the area of the concept of income and personal data).

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[22] The Dutch Digital Delta, beyond e-Europe, October 2000, Progress report on the Dutch Digital Delta, October 2000

		Action plans sent to Parliament. Implementation started.	Follow-on measures defined based on results
7.	Reducing administrative burden	Action plans sent to Parliament. Implementation started.	Follow-on measures defined based on results
8.	Implementing expertise to be combined in single new unit	Several programme bureaus in operation; Programme bureaus brought together in a single building	Elaboration of organizations structure and definitive decision about ICT unit. Operationalisation of Expertise bureau on Innovative Decision-making in 2001.
9.	Strengthening coordination function for ICT within central government	Directors and Cluster Forum on Electronic Government appointed. ICT Council appointed end 1999.	Follow-on measures defined based on results

E3 - Model Function of the government

Description	Status end 2000	Further Actions & Realisation
10. Support introduction of electronic tendering	Pilot projects launched; Start of project organisation.	Pilots finished. Selection and implementation of follow-on pilots
11. Carry out pilot on (electronic) remote identification	Pilot projects started; actual use of pilot in 2000.	Results of pilot ready in 2001; selection and implementation of follow-on pilots in 2001
12. Study of electronic payments to/by government	Establishment of Public Key Infrastructure (PKI)Taskforce; Initial implementation advice by the EDP Audit Pool.	Integration into the activities of PKI Taskforce
13. AWB to be adapted to digital age	Legislative Committee on General Administrative Law Rules prepared draft legislation	Preparation of draft Bill.
14. Development of an infrastructure platform for electronic identification	Research completed in 1999. PKI taskforce set up in 19999. Limited PKI provisions established in 2000.	At the end of 2002, PKI will be operating for central government.
15. Support use of TTPs by government	Accreditation and certification schemes in final phase of development. Project organisation set up. Project plan for legal access approved.	Evaluation of national TTP project. Operationalisation of TTP infrastructure.
16. Encouraging code of conduct on electronic commerce within government	Code of Conduct launched in 1999, presented to OECD.	In UN context, study whether the code can be converted into an UN recommendation.

Freedom through Connectedness

The rapid ICT advances require a flexible but unequivocal government information society. Simply implementing the matters referred to in the Dutch Digital Delta report will no longer be sufficient. For that reason the Dutch government set out a vision in the policy documents "Contract with the future", to serve as a stimulus for a debate on the role of electronic government in the information society. The policy document lists a number of actions, and exploratory surveys, summarised in table 4.

The principles that apply to the information relation between government and citizen in the network society are specified in the vision "Freedom through connectedness". The term freedom indicates the scope for citizens to choose how they wish to be connected with government. The concept of connectedness can be interpreted in two ways:

- the virtual networks in which government bodies will be connected both with each other and with businesses, civic organisations and citizens and
- it expresses the element of being bound by agreements between government and citizen concerning the form of the information relation.

Among the matters dealt with are how government can be held to account for its actions and how the 'contract' between government and citizen, which protects the individual freedom of choice of citizens, can be guaranteed. The following obligations must be undertaken for implementation of an approachable government on the basis of the "Freedom through Connectedness" vision:

- Accessibility:

    equal opportunities for every citizen to gain access to electronic government and to accessible government information
- Freedom of choice:

    options for citizens about the way of structuring their information relationship with electronic government (in its steering role)
- Credibility:

    provision of clarity to citizens about their rights in relation to electronic government
- Participation:

    provision of clarity to citizens about the scope for electronic participation and the status of such participation

	Exploratory survey
1. Approachable government – Accessibility	
The quality of electronic services	A macro survey will be conducted in 2000 to ascertain the indicative costs and benefits of the complete roll-out of the Electronic Government Action Programme and the way in which costs and benefits are expected to be apportioned
General quality aspects of electronic government (1)	A user panel will be established to find out how users consider the functioning of electronic government on the Internet and to determine their wishes. The findings will be used to decide what elements are important for the quality of a government website.
General quality aspects of electronic government (2)	The Cabinet will invite each sector in the public domain to develop an ICT opportunity card for its own sector, subject to the control of the relevant government department. The ICT experts together with experts from the sector will link promising technological developments to policy issues facing the sector.
2. Approachable government – Freedom of choice	
Pro-active or responsive government	On the basis of pilot studies, Dutch government will examine what government services are suitable for a pro-active approach to citizens and what preconditions such pro-active service should fulfill. Another subject covered by the pilot studies

	is the operating procedure of electronic government.
3. Approachable government – Credibility	
The right to take part in the information society	Dutch government will examine how participation of non-profit making and voluntary organisations on the Internet is progressing and in what way these organisations can make an optimal contribution to a dynamic balance between government, market and civil society in the virtual world.
The right to control one's own personal data (1)	Dutch government wishes to assess the effect of government measures or proposed measures in various sectors on the protection of privacy.
The right to control one's own personal data (2)	Dutch Government will work out how a 'right to control of one's own personal data' can be implemented and in which way this affects government. If data are managed by government, one of the issues will be whether, and if so how, citizens can be kept informed by means of periodic reports about their personal data. Government will take stock of the possibilities for guaranteeing privacy by using PET.
The right to protection from unnecessary data traffic	Dutch Government will work out, partly by reference to foreign examples, if the principle of supplying data once could be introduced in the information relationship between government and citizen. If so, what measures are necessary to achieve this. In this way, it should be possible to give effect to the future right of citizens and businesses to furnish information to government only once.
4. Approachable government – Participation	
Quality of the digital democracy	Government will work out what parameters should be formulated for the involvement of electronic government in various digital debates, given the nature of the Dutch political system. This applies both to debates organised by government itself and to debates organised by others in which it may or may not participate.
5. Approachable government – Consequences for position and structure	
	Dutch Government will commission a survey before the end of 2000 on the impact of ICT on the position, role and institutional structure of government. The request for advice will also encompass the consequences of globalisation, in particular in relation to its interaction with ICT.

Government in flux	Actions
Innovative government	Government will make funds available for a thorough overhaul of its policy and operating processes. It will do this by acting as a launching customer and thus providing an extra boost for Dutch research and the development of ICT.
Reliable government	Government will adopt procedures and rules of conduct in 2000 to guarantee the reliability of personal data. Attention will be paid in this connection to aspects of security and how this can be achieved through the use of the Public Key Infrastructure (PKI). The procedures and rules will be evaluated and thereafter certified. In addition, Government will produce proposals for gathering and collating knowledge of best practices concerning security measures for government information policy this autumn.
Helpful government (1)	All municipalities in the Netherlands should have a website in 2002. The Union of Netherlands Municipalities will be consulted to determine how this objective can best be achieved. A model services catalogue will therefore be developed in 2000 and provided free of charge to all municipalities.
Helpful government (2)	A start will be made with territorially integrated pilot projects in 2001. The aim is to provide a complete range of electronic government services in a number of test areas.
Helpful government (3)	In 2001 will be determined whether a financing facility can be created which encourages government sectors to invest in profitable ICT with a view to the provision of better services.
Helpful government (4)	Dutch Government will establish an ICT implementation organisation in 2000 which will have the following functions: • to implement ICT programmes in government organisations; • to certify organisational consultancies and ICT companies which will offer the Public Counter 2000 approach; • to monitor the progress made in providing electronic services; • to gather and exchange information about best practices in the Netherlands.
Government for everyone (1)	Government will establish an expertise centre for innovative decision-making in 2000 as part of the ICT Implementation organisation. This centre will gather information about best practices, advise Government organisations on the establishment of interactive, ICT-supported decision-making and develop consultative processes and ICT means for supporting these processes. In addition, the expertise centre will gather information and produce guidelines on the combination of innovative decision-making and democratic

	legitimacy.
Government for everyone (2)	Dutch Government will implement the Remote Voting (KOA) project. The object is to develop a system that will enable voters to cast their vote at any polling station in the Netherlands. It is planned to test the system for the first time during the elections in 2003 that come under the Franchise Act. A study is also being made to ascertain whether voting from home or workplace is possible.
Government for everyone (3)	Dutch Government will create 34 'digital playing fields' in the 30 major cities. The idea is that these 'playing fields' should have the function traditionally fulfilled by the empty neighbour-hood plots where children have traditionally played and kicked a ball around. The playing fields can improve social cohesion in a neighbourhood since everyone can simply enter and be helped to acquire the skills needed in the information society. However, they can also play an important function in providing further training for young people and thus enabling them to take a step up the ladder towards a regular job in the ICT sector.

Table 4: Exploratory surveys and Actions Dutch e-Government
Source: Contract with the future: A vision on the electronic relationship between government and citizen, May 2000

3.3.2 United Kingdom

Modernising Government

In March 1999 the Cabinet Office presented the White Paper "Modernising Government" to the Parliament. This White Paper sets out a long-term programme of change – change in the way government makes policy, in the way services are delivered, in the way government uses technology and in the way public service is valued.

The White Paper defines three aims in modernising government:

• Ensuring that policy making is more joined up and strategic;
• Making sure that public service users and not providers are the focus, by matching services more closely to peoples lives;
• Delivering public services that are high quality and efficient.

The programme is centered on five key commitments:

• Policy making: forward looking in development of policies to deliver outcomes that matter, not only reacting on short-term pressures;
• Responsive public services: delivering of public services to meet the needs of the citizens;
• Quality public services: delivering efficient, high quality public services and no toleration of mediocrity;
• Information age government: use of new technology to meet the needs of citizens and business;

- Public service: valuation of public services, no denigration.

The White Paper set a target that by 2008 all services (with exclusions for policy and operational reasons) should be available electronically. The Prime Minister announced in March 2000 that this date should be advanced to 2005.

The White Paper announced to publish an IT strategy for government which would focus on the needs of citizens and business. The document "e-Government, a strategic framework for public services in the Information Age" of April 2000 provides a strategic direction for the way the public sector will transform itself by implementing business models which exploit the possibilities of new technology.

A central element in the strategy is the use of e-business methods (using Internet technologies to exploit information for better management of relationships with customers, suppliers and partners) as a means of meeting the Government's targets for electronic service delivery, electronic procurement and e-commerce. Figure 2 shows an architectural model of how individual departmental and sectoral initiatives relate to the strategic framework and standards. The model has three elements:

- access;
- e-business components;
- interoperability.
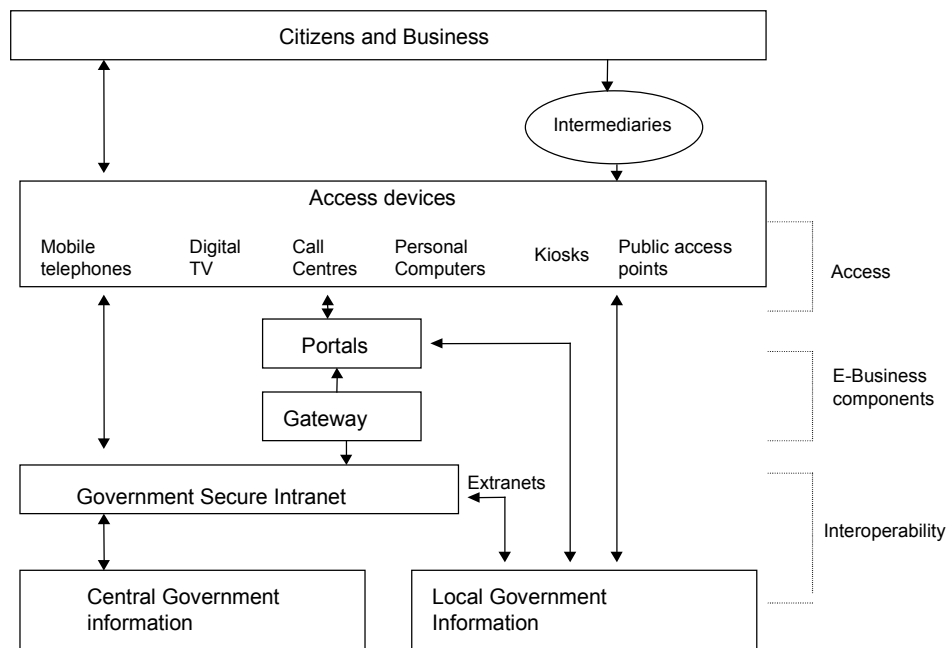
figure 2: architectural model
source: Modernising government, March 1999

Access
The strategy envisages that services will be accessed by multiple technologies, including web sites accessible from PCs, kiosks, mobile phone and digital TV, and call and contact centres. Intermediaries may use these technologies to provide better face-to-face services. The Central IT Unit of the Cabinet Office will establish and continually revise framework policies for each major delivery mechanism.

The government will establish a transactional portal site for individual citizens and a separate service for business portal. The citizen's portal site will offer citizens a range of services from which they can select those that apply to their own circumstances.

e-Business components

There are structural components which can effectively be provided according to centrally determined standards, thereby saving work for service providers and creating a familiar and trusted experience for users. The Central IT Unit has published and will maintain framework policies and standards on:

- Third party service delivery channels
- Security of transactions and information
- Authentication
- Smart cards

Interoperability

The Central IT Unit is establishing common standards and infrastructure to enable interoperability across government departments and the wider public sector. The policies and standards will also ensure that government organisations can communicate electronically with citizens and businesses.

UK Online strategy

In September 2000 the Government's UK Online annual report has been launched. It sets out the Government's detailed strategy for getting the UK online, announcing initiatives and investment to get people, business and Government itself online. UK Online is a partnership between government, industry, the voluntary sector, trade unions and consumer groups that aims to make the UK one of the world's leading knowledge economies. The following table outlines the UK Online actions related to "government online".

Government Online	Detailed actions
Get all government services online	- Improve the customer front-end - Join up the back-office systems - Set standards - Improve organisational capacity of government to deliver electronic services - Champion private and voluntary sector involvement in the delivery of electronic government services
Drive forward towards e-procurement and e-tendering targets	- Develop coherence and standardisation in e-procurement - Provide advice and guidance on e-procurement systems, tools and techniques - Innovative pilot e-procurement projects - 50% e-tendering by 2001 - 100% e-tendering by 2002
Implement a cross-government knowledge management system	- Develop applications - Develop departmental interactivity - Develop change management - Embed Knowledge Network in operational practices
Drive forward citizen participation in democracy as part of the UK online citizen portal	- Liaise with Home office and others on online voter registration and online postal vote application - Participation by devolved adminsitrations and local authorities

Government Online	Detailed actions
Drive forward the use of authentication services both for e-government services and within government itself	• Work with Trusted Service Providers to ensure interoperability with government • Identify suitable security and authentication technologies in the marketplace to support government Electronic Service Delivery Targets • Exploit and develop government use of Public Key Infrastructure (PKI) • Define relationship between government PKI and the tScheme

Table 5: Outline of the UK Online actions related to "government online".
Source: UK Online Annual report 2000; http://www.e-envoy.gov.uk/ukonline/progress/anrep1/default.htm

3.3.3 Singapore

Singapore is one of few countries in the world with an integrated and coherent approach to computerisation in the public sector - thanks to an all encompassing Civil Service Computerisation Programme (CSCP) that aims to turn the entire Civil Service into a world-class exploiter of Information Technology.

Since its launch in 1981, CSCP has brought about many changes to the way the Singapore government works, interacts and serves the public.

The vision of the Singapore government is to be a leading e-Government to better serve Singapore and Singaporeans in the new knowledge based economy. To realise this vision, an e-Government Action Plan has been drawn up. It charts the strategic thrusts and programmes that guide public service in realising the e-Government vision, while trying to retain the flexibility to adapt to changing needs.

The e-Government Action Plan presents five strategic thrusts for e-Government activities for the next few years:

1. Re-inventing Government in the Digital Economy
   Governance in the Digital Economy requires a clear understanding of the impact of infocomm technologies on internal processes in the public sector and transactions with citizens and business. The Digital Economy demands reviews of policies, regulations and processes to align them with rapid developments in the economy and to meet rising expectations from the public.

2. Delivering Integrated Electronic Services
   Citizens will be able to access more and more public services, delivered online, anytime, anywhere. Greater value will be created for the public if electronic services are integrated and centered around customers' needs. The end objective is to provide a convenient one-stop, non-stop service for the public. The government's e-Citizen Centre initiative embodies this concept. It requires government agencies to work across boundaries to integrate information, processes and systems so as to provide a seamless online experience.

3. Being Proactive and Responsive
   Government agencies do not have the luxury of time to develop new policies, systems and services, as "time to market" for new services becomes an important consideration. Increasingly, government agencies have to adopt the same "sense and respond" approach as the private sector in anticipating citizen's needs and delivering responsive

systems and services with speed. Existing services and processes need to be fine-tuned to meet customers' changing needs in line with new technological possibilities.

4. Using "Infocomm technologies" to build new capabilities and capacities
Government agencies must re-engineer government processes to benefit from the new business models of the Internet era. This will help to enhance internal processes and build new capabilities and capacities. Appropriate systems and infrastructure will be needed to support change. Public officers need necessary skills and tools to make them effective knowledge workers. They must be able to access systems and information anytime and anywhere.

5. Innovating with "Infocomm technologies"
Public officers must experiment with, innovate and exploit new technologies to deliver government services more effectively. They must learn by benchmarking against private sector e-commerce practices and other leading e-Governments.

To drive the strategic thrusts, six programmes have been identified:

1. Knowledge based workplace
Public officers will be empowered to be knowledge workers who engage in active and collaborative learning and knowledge-sharing as part of a culture of continuous learning. Learning itself will increasingly be performed online (e-Learning).

2. Electronic Services Delivery
The current e-Citizen Center focuses on providing a one-stop interface with the public through integration of services offered by public sector agencies. The PS Online project will put in place a common infrastructure to enable:
(a) seamless integration of e-Citizen front-end applications with back-end systems of agencies so that more services can be deployed expediently; and
(b) tighter business process interaction between agencies, their suppliers and business partners to present the citizen with a single point of contact.

3. Technology Experimentation
Public sector agencies need to experiment with new technologies and pioneer initiatives which are "first-of-its-kind" or "first-in-its-series" in the public sector on a trial and pilot basis to better understand what new capabilities these technologies can offer and how they can benefit their organisations and customers.

4. Operational efficiency improvement
The public sector will continue to identify and invest in new systems that improve operational efficiency. Continuous review of relevance and usefulness of functions and processes and identifying possibilities for streamlining processes by use of new technologies is needed.

5. Adaptive and robust "Infocomm" Infrastructure
"Infocomm" infrastructure investments in the public sector will be channeled to enable the advent of a knowledge-based workplace and the delivery of integrated electronic services, in addition to improving operational efficiency. These include both agency-specific projects as well as service-wide infrastructure projects where the emphasis is on scalability, robustness and cost-efficiency

6. "Infocomm" Education
The "Infocomm" education programme will target all levels of the public sector. It extends beyond traditional IT literacy, skills and application systems training to improve work processes and service delivery.

3.4 Relevance for SIBIS

Based on the policy documents it is possible to score e-Government according to two basic dimensions: firstly processes implementation and secondly outcomes.

From the review of policy documents, three main categories seem relevant with regard to the dimension of process implementation:

- Strategy development: have strategy documents and implementation plans been developed (covering specific areas as outlined above)? Have they been subject to consultation? Do they require legislative changes, harmonisation, etc.? How are the initiatives organised (e.g. decentralised or under an ICT 'czar' or 'champion'; by departments or centrally)? What is the timeline for implementation? Are common standards foreseen (if so, are they COTS standards or do they require development)? How are the initiatives funded? Have they been costed? Do they involve public-private partnerships?

- Implementation: Have necessary law and regulation changes been made? Have units been reorganised? Are websites 'up and running'? What is the status of plans for transition (in particular, are their quantitative targets for % of services on line; are their commitments to maintain non-electronic channels, or will the offline communication be switched off)? What services are currently available on line? What use is being made of them (level, trend, and proportion of total service access)?

- Evaluation: what procedures has the government developed for evaluation? Have they defined specific targets and put mechanisms in place for collecting regular monitoring information? Have ad hoc or statutory evaluations been made (in particular have supreme audit institutions evaluated these initiatives or are other bodies also involved)?

With regard to the outcome dimension, indicators have to be developed which measure the effectiveness of these initiatives and their ultimate impact and sustainability. The precise definition varies from area to area (as described above), but in general such measures could include:

- Output: what services are available on-line? What is the distribution of accessible websites by size of unit, policy area, level of government, etc.? This information tends to be increasingly available today.

- Effectiveness: what use is made of on-line services (absolutely and in percentage terms)? How many 'hits' are government websites receiving, and what are the trends and distribution? How fast, reliable and timely is on-line information?

- Impact: how are these initiatives changing the way citizens and governments interact? Part of this concerns the efficiency (as seen by the citizen) of on-line access: how many hits or how much time is required to complete a standard transaction (e.g. obtaining a driving licence, filing taxes)? How accurate are these transactions (in the case of taxes, this combines data currently being collected on computer errors and fraudulent filings)? How usable and useful are government websites? Do they provide a list of standard types of information (responsible party (Web and policy), contact telephone, address, email, links to related sites, etc.)?

4 Review of existing indicators

In the review of existing indicators, we present them according to their sources. Each study cited yields a number of indicators and these tend to fall into a natural arrangement. Some indicators are quite general and consider access to the Internet, while others are quite specific and examine the ability to carry out well-defined transactions *via* e-government.

The general indicators are likely to serve in a the study of a number of aspects of the information society. They include indicators A1 and A2, which refer to the use of Internet and its access from home. Moving to e-government, indicators A 3-1 and A 3-2 seek to measure the use of government services online. These indicators are still rather general, however. Indicator A25 is similar to indicators A3-1 and A3-2, but because it originates from the study of a single country, it is kept separate.

Indicators A4-A24consider the level of sophistication of specific online services. A26-A32 complements A4-A24 by considering the type of structure that is available to build an e-government presence. Thus, whereas A4-A24 examine how interactive services are, A26-A32 show how sophisticated a network government can use to provide its interactive services.

The remaining indicators (A-33-A-47) consider the preferred mode of access to e-government and what some of the barriers to access are for European nations. This complements the information in the previous indicators, since it gives a sense of what may stand in the way of building a working version of e-government, while the earlier indicators only showed what might be available today.

4.1   Summary of Existing indicators (e-Government)

A summary table of existing indicators is presented here. The complete description of the existing indicators for e-government is collected in Appendix B.

No.	Name of indicator	Sub-domain	eEurope code	Main Source
A1	Percentage of the population who regularly use the Internet	egovernment	3b-1, 3b-2	Liste des indicateurs d'étalonnage pour le plan d'action eEurope.
A2	Percentage of households with Internet access at home	egovernment	3b-1, 3b-2	Liste des indicateurs d'étalonnage pour le plan d'action eEurope.
A3-1	Government services online, Internet users % visiting government websites	egovernment	3b-1, 3b-2	Eurobarometer
A3-2	Usage of government services online; type of use	egovernment	3b-1, 3b-2	Eurobarometer
A4	Percentage of municipalities with an on-line presence	egovernment	3b-1, 3b-2	Eurobarometer
A5	Income taxes: declaration, notification of assessment	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A6	Job search services by labour offices	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A7	Social security contributions	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A8	Personal documents	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A9	Car registration	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A10	Application for building permission	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A11	Declaration to the police	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002

No.	Name of indicator	Sub-domain	eEurope code	Main Source
A12	Public libraries	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A13	Certificates: request and delivery	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A14	Enrolment in higher education/ university	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A15	Announcement of moving	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A16	Health related services	egovernment	3b-1, 3b-2, 3b-4	e-Europe 2002
A17	Social contribution for employees	egovernment	3b-3, 3b-4	e-Europe 2002
A18	Corporation tax: declaration, notification	egovernment	3b-3, 3b-4	e-Europe 2002
A19	VAT: declaration, notification	egovernment	3b-3, 3b-4	e-Europe 2002
A20	Registration of a new company	egovernment	3b-3, 3b-4	e-Europe 2002
A21	Submission of data to statistical offices	egovernment	3b-3, 3b-4	e-Europe 2002
A22	Customs declarations	egovernment	3b-3, 3b-4	e-Europe 2002
A23	Environment-related permits	egovernment	3b-3, 3b-4	e-Europe 2002
A24	Public procurement	egovernment	3b-3, 3b-4	e-Europe 2002
A25	% of electronic service provided by the government	egovernment	3b-1, 3b-2	Ministry of Interior and Kingdom relations
A26	Internal use of ICT, Access to the Internet	egovernment	3b-1, 3b-2	International ICT Benchmark 2000
A27	Internal use of ICT, Access to e-mail	egovernment	3b-1, 3b-2	International ICT Benchmark 2000
A28	Availability of a (central) government network or intranet	egovernment	3b-1, 3b-2	International ICT Benchmark 2000
A29	Accessibility of government organisations and information	egovernment	3b-1, 3b-2	International ICT Benchmark 2000
A30	Availability of government information at portals	egovernment	3b-1, 3b-2	International ICT Benchmark 2000
A31	Availability of government information at municipal sites	egovernment	3b-1, 3b-2	International ICT Benchmark 2000
A32	% of municipality websites with e-procurement	egovernment	3b-1, 3b-2	International ICT Benchmark 2000
A33	Improved Service Delivery-Central Government	egovernment	3b-1, 3b-2	e-Government Ready or Not
A34	Perceived Advantages of Electronic Service Delivery-Central Government	egovernment	3b-1, 3b-2	e-Government Ready or Not
A35	Barriers to e-Government-Central Government	egovernment	3b-1, 3b-2	e-Government Ready or Not
A36	Perceived Advantages of Electronic Service Deliver-Local & Regional Government	egovernment	3b-1, 3b-2	e-Government Ready or Not
A37	Barriers to e-Government-Local & Regional Government	egovernment	3b-1, 3b-2	e-Government Ready or Not
A38	Preferred Channel to Interact with Government	egovernment	3b-1, 3b-2	e-Government Ready or Not
A39	Most Important Barriers by Segment	egovernment	3b-1, 3b-2	e-Government Ready or Not
A40	Contradictory Views About What e-Government Will Do to Human Contact	egovernment	3b-1, 3b-2	e-Government Ready or Not
A41	Do Consumers Prefer Email or the Phone	egovernment	3b-1, 3b-2	e-Government Ready or Not
A42	Confidence in the Civil Service	egovernment	3b-1, 3b-2	e-Government Ready or Not
A43	Finding Out About Benefits	egovernment	3b-1, 3b-2	e-Government

No.	Name of indicator	Sub-domain	eEurope code	Main Source
				Ready or Not
A44	Demand for Electronic Services	egovernment	3b-1, 3b-2	e-Government Ready or Not
A45	Public Readiness for e-Government	egovernment	3b-1, 3b-2	e-Government Ready or Not
A46	Mode of Access to Government	egovernment	3b-1, 3b-2	e-Government Ready or Not
A47	Internet Penetration by Nation	egovernment	3b-1, 3b-2	e-Governement Ready or Not

4.2   Innovative indicators under development

Among the indicators above, many have been defined, but have not yet been tested. According to the existing list, these correspond to indicators A5-A24. Since they have been defined, these indicators are listed as existing. However, because they have not yet been used, they could have been listed as indicators under development.

5 Summary of Part A and conclusions

Governments are making a concerted effort to address the issue of e-government. This is evidenced by the many policy documents issued on this matter. The review of policy documents on e-government shows that governments are carefully examining how e-government will come about. The implementation of e-government is viewed as an opportunity to fundamentally change processes to make them more accessible and effective for citizens and administrations.

Information has been collected already on e-government. Existing indicators address the following e-Europe action lines:

- 1a-4 Availability of low-cost, high-speed networks for Internet access;
- 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible;
- 3b-2 Member states to provide generalised electronic access to main basic public services by 2003.
- 3b-3 Develop a co-ordinated approach for public sector information, including at European level by the end of end 2000.
- 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union Member States during 2001.

Some indicators, that have been classified as existing, have not yet been tested. If one chooses to consider those under development, then indicators under development will also address 3b-1, 3b-2, 3b-3 and 3b-4.

In this report, two important themes emerge with respect to e-government. These are (1) accessibility and usability, and (2) openness and effectiveness. Depending on the measure— accessibility and usability, or openness and effectiveness, different countries emerge as clear leaders. Indicators in the literature examine e-government interactivity and measure the openness of e-government. Generally, governments are focusing their e-government efforts on improving accessibility. Associated actions are:

- Ensuring a cheaper, faster, secure Internet;
- Investing in people and skills;
- Stimulating the use of the Internet.

The overriding concern is to ensure the electronic access to online public government services. Individual country reports focus on understanding the impact of ICT on government, strengthening the coordination function of ICT, and improving the foundation of e-government to ensure that it operates smoothly. Because e-government is not just the implementation of existing government on an electronic platform, some countries are reorganizing government to reflect this.

Existing indicators provide important insights into e-government. One point they do not address, however, is how e-government compares to existing government. This will be addressed in Part 2 of this document.

PART B (D 2.2)

6 Gaps in the Statistical Coverage of E-Government

The e-Europe 2002 Action Plan presents a vision of on-line government and challenges Member States to achieve this vision.[23] The achievement of this vision is spelled out in 7 actions. These are presented in the table below. The actions are numbered in the left column according to where they appear in the Action Plan.

	Action	Actor(s)	Deadline
3b-1	Essential public data online including legal, administrative cultural, environmental and traffic information.	Member States, supported by European Commission	end 2002
3b-2	Member States to ensure generalised electronic access to main basic public services	Member States	end 2002/3
3b-3	Simplified online administrative procedures for business e.g. fast track procedures to set up a company.	Member States, European Commission	end 2002
3b-4	Develop a co-ordinated approach for public sector information, including at European level	European Commission	end 2000
3b-5	Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union (through the IST and IDA programmes).	European Commission, Member States	during 2001
3b-6	All basic transactions with the European Commission must be available online (e.g. funding, research contracts, recruitment, procurement).	European Commission	end 2001
3b-7	Promote the use of electronic signatures within the public sector.	Member States, European Institutions	end 2001

Measuring progress toward achieving a vision of a modern information society relies on the elaboration of appropriate social indicators. Here, they are focused on e-government. In WT 2.1, existing indicators were identified to determine where Member States and the EU stand today relative to goals expressed in the Action Plan. The indicators discussed in WT 2.1 fall into three broad categories. The first set of indicators, A1-A4 and A25-A32 measure progressively more specific aspects of accessibility related to the use of e-government. These indicators correspond to four levels. They are:

- the use of Internet,[24]
- the use of Internet from home,[25]
- visits to government sites via the Internet,[26]
- the presence of government municipalities online.[27]

Of the indicators listed above, two merit further discussion. The second indicator—the use of Internet from home—is a useful measure of the penetration of information and communications technologies, but may be too restrictive. Access to e-government can occur

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from public access sites such as libraries or from the workplace. For this reason, this indicator should be broadened to include other forms of access to the Internet.

The fourth indicator—the presence of municipalities online—requires some clarification. This corresponds to local governments. The indicator does not provide sufficient information about e-government at other levels of administration. There is a need for either a complementary indicator that measures the online presence of central and regional government agencies, or at least a broadening of the existing indicator to include other levels of government.

The second set of indicators, A5-A24, which may be viewed either as existing indicators or ones under development, as explained in WT 2.1, provide insights into the existence and sophistication of e-government services. The services described in WT 2.1 can be divided into services for citizens and services for businesses. They are mapped on a four-point scale that measures the level of sophistication of e-government in carrying out specific functions.

Indicators A1-A24 are useful because they directly answer e-Europe actions. These indicators are useful in charting the direction where e-government should progress. For example, one can see that for e-government to become established it should be accessible, which in turn calls for the widespread access to and use of the Internet. Of course, this presumes that e-government is structured in such a way as to provide maximum benefit to its users. E-government does not need to be limited to online government. Rather, it should find a good combination of roles: providing a non-exclusive alternative for people to do things currently done off-line; providing a 'backup' for people who need more 'bandwidth' (in terms of content or time) than offline access can provide; and providing genuinely new things that cannot be provided in other ways.

Online does not need to equate with electronic. Governments rely on call centres to deliver information (e.g. NHS Direct to ease the burden of routine tasks in the UK Health Service) – these may be partially online—especially with the introduction of VoIP (voice over IP) to provide a richer, deeper service. Alternatively, the continued development of these services may depend on their evolution toward an Internet based structure with information exchange occurring in two-way communications using computers. Regardless, the continued implementation of e-government necessitates some rethinking of how government interacts with citizens, businesses, and internally. This may result in the re-engineering of government service. As a result, it is appropriate to ask how service delivery, organisation and quality assessment have changed thanks to information and communications technologies. Indicators A1-A24 bring into focus one vision of e-government and can be used as a guide in making this vision a reality, but this vision need not be unique.

Indicators A1-A24 help answer the question of whether e-government is taking on the appearance that policy makers had envisioned for it. It is important to bear in mind that this is one of at least two distinct visions of how e-government comes about: the 'old' controlling vision (design, deploy, use) and the interactive vision (try, get feedback, evolve and adapt). Also, the 'depth' of the changes may be different: 'user interface' (UI) only, 'back office' (BO) only, UI and BO, or internal reform and reorganisation.

Indicators A1-A24 do not consider the acceptance and adoption of e-government by its intended users for specific functions and do not consider other aspects of e-government implementation such as barriers to its adoption. Measuring this aspect of e-government requires the elaboration of a complementary set of indicators. In addition, the third set of indicators, A33-A47, exists for the UK only, but does consider some of those elements. The implementation of this set of indicators at a European level might be useful.

Government interacts with others using several different modes in mind. Similarly, e-government can be expected to operate in much the same way. Using the general schema developed previously, we define three general sets of interactions. Based on these interactions, the main forms of communication affect by e-government are:

• government to citizen,
• government to business,

- and government to government.

What is meant by citizen and business may vary depending on the occurrence of interest. Thus, for example, the citizen may at times be a voter, at others a taxpayer, and so forth. Each of these facets of e-government operates in different ways and the expectations of their users differ.

Citizens make use of government services throughout their lives. Their decision to adopt e-government services either to replace or supplement traditional services may depend on a number of factors. Accessibility is clearly an issue. If e-government allows citizens to transact with government in new ways, they may value this convenience. However, if e-government requires that citizens learn to work with unfamiliar technologies, the adoption of e-government by citizens may lag the expectations of decision makers. In addition, citizens may be concerned with issues of privacy. Although this topic is relevant, it is treated within the topic of Security and Trust rather than the topic of e-government (see Topic Report 3).

Businesses rely on government services as well. Businesses may routinely make use of information technologies and access to sophisticated telecommunications is unlikely to limit the adoption of e-government. However, business owners may be concerned that access to e-government does not improve their communications or interactions with government. From the perspective of businesses, efficiency and effectiveness resulting from the adoption of e-government by business is critical. In addition, business owners may fear that information provided online will not be treated with sufficient security. The latter issue is part of Security and Trust and will not be treated as part of e-government (see Topic Report 3).

Government agencies rely on e-government also. Information flows back and forth among government agencies. The adoption of information technologies opens the opportunity for government to re-examine the processes that it has created. As a result, some of these processes may be re-engineered. The decision to adopt e-government by agencies will, therefore, depend on whether this results in improved effectiveness compared to existing processes[28].

The distinction among citizens, businesses, and government is important because these groups will likely have different reasons for deciding whether or not to make use of e-government services. Citizens may be limited by accessibility, for example, while businesses may be concerned with efficiency and effectiveness, and government may want to ensure that the processes enabled by e-government are more effective than those they replace.

New indicators must be developed that address the acceptance and adoption of e-government by its intended users. In addition, barriers to the adoption of e-government must be identified to allow policy makers to address them. The UK Study "eGovernment ready or not" (indicators A33-A47) can be used as a starting point for developing those new indicators. Citizens, businesses and government have different needs. They may also face different barriers to making use of e-government. For this reason, different indicators may need to be developed for each group.

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[28]   Legal and regulatory provisions constrain administration's activities. This needs re-engineering, but it takes often too much time compared to the speed of change offered by technology

7 The Hierarchical System of E-Government Indicators

The realisation of e-government depends on two complementary aspects. First, the vision of e-government dictates the types of services that must be available online and the level of sophistication they must achieve. Second, the adoption of e-government by its intended users requires careful preparation, although this is not always possible, as the development of e-government may seem to just happen at times. Development would be based on a thorough understanding of how users perceive e-government, how well they can complete expected transactions, and what barriers stand in the way of successful adoption. The knowledge gained by studying both sides of e-government—vision, acceptance and adoption—provides a necessary foundation for its successful implementation.

Consequently, two sets of indicators are necessary to measure the successful implementation of e-government: indicators that assess progress toward a vision of e-government (which were described in WT 2.1); and indicators that measure acceptance and adoption of e-government by its intended users. The latter constitute a novel and necessary set of indicators. The elaboration of these indicators depends on understanding the needs of users of e-government.

As explained, potential and existing users of e-government fall into three broad groups—citizens, businesses, and government. The potential barriers to the acceptance and adoption of e-government vary with the identified users of e-government. As a result, the new indicators will differ depending on the group of users. Even so, a theme emerges as these indicators are developed. The new indicators will depend on measuring the adoption of e-government by comparing the use of traditional and electronic channels to communicate with government. Here, communication denotes a broad range of actions including information gathering, downloading of forms, two-way interactions, and finally full-scale transactions analogous to those that occur among persons in traditional government functions.
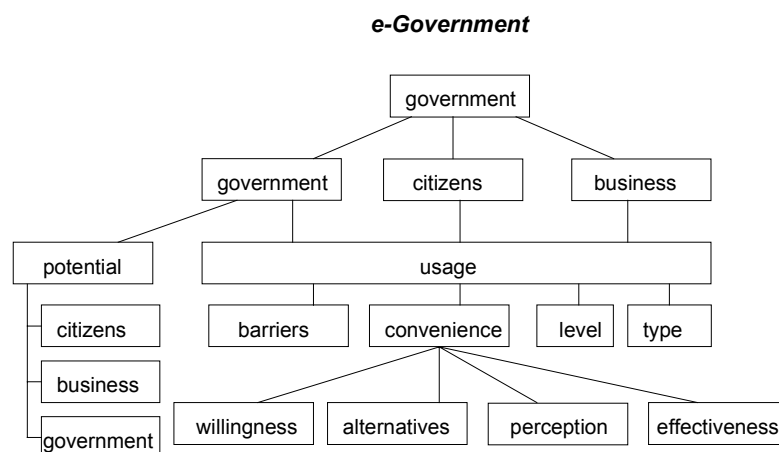

Figure 1: Hierarchical system e-Government

Figure 1 gives the general hierarchical structure on e-government. For each sublevel several indicators already exist or can be developed. The next chapter will differentiate this hierarchical tree further for each of the sublevels government, citizens and business, and will show where indicators already exist or need to be developed.

The analysis described here focuses on the usage of governments, businesses and citizens of electronic government. For governments it is also important to get an overview of the potential of electronic government: what type of electronic interaction is possible and at which stage is it currently available.

8 Definition of New SIBIS Indicators and Suggestions

If new indicators are to be developed for measuring the existence of barriers for using e-government, a distinction between types of users must be drawn. The potential barriers relating to different types of users are summarised in the table below. They will be discussed separately below.

Types of Users	Potential Barriers
Citizens	Accessibility, technology, convenience
Businesses	Cost, training, willingness to use
Government	Training, appropriate equipment, effectiveness

Some of the new SIBIS indicators refer to the operation of e-government. These indicators will guide the analysis. They rely principally on comparing the use of equivalent e-government and traditional functions. These might include all the functions identified in indicators A5-A24.

8.1 Citizens

Interaction between citizens and government can take various forms. Indicators A5-A16 are taken as a representative set of these interactions. As an example of how one might work with one of these indicators, one can monitor the type and frequency of online interaction concerninig the process of income tax declaration and compare it with interaction by traditional means. This will show what aspects of this function of e-government are accepted and adopted by citizens. The information will complement what is known already about the level of interaction that has been achieved by this particular function. One possible outcome of this comparison might be to learn that the *potential* to carry out interactions regarding income tax has reached the level where the whole process can be carried out online, but that citizens limit their *actual* online activities to gathering information online about services and to the downloading of forms.

A comparison between the level of sophistication of a given e-government function and its level of acceptance and adoption will guide the next step in building the appropriate indicator. The goal of the indicator is to understand why acceptance and adoption have reached the levels that they have. Thus, one may ask individuals what level of online interaction they make use of for a given e-government function. One may then ask what factors prevent more sophisticated online interaction. The factors of interest for this section depend on technology and on the technical knowledge of individuals. Technology determines what is possible and technical knowledge plays a role in how sophisticated an interaction users are willing to carry out.

Some users may decline to use e-government services because of a lack of access to computers. Alternatively, they may be unable or unwilling to search the government's site online for the necessary links, preferring instead to contact a government representative in person, by mail or by telephone. Barriers to citizens' use of e-government may thus fall in the following categories:

• Online services are not accessible due to lack of Internet access,

• User does not have sufficient training to carry out the desired interaction online,

• User is not willing to carry out the interaction online.

The following hierarchical tree identifies the major issues that are relevant for citizens and their relation with e-Government
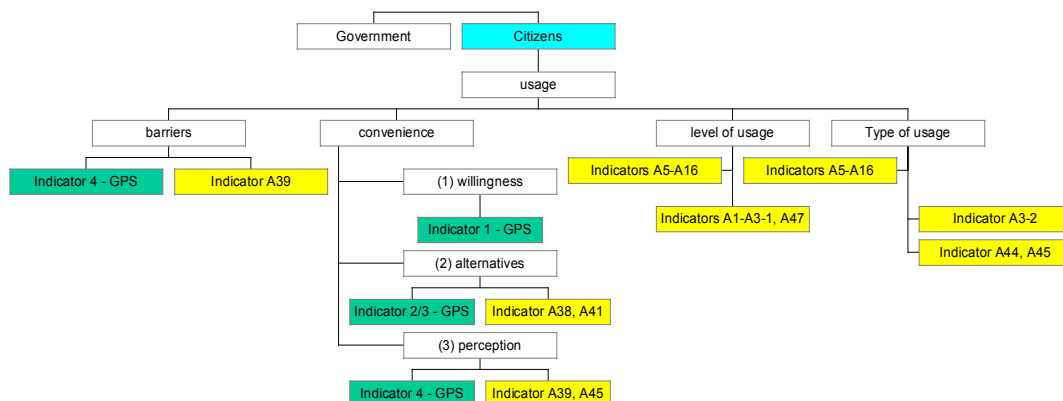

Figure 2: hierarchical structure government-to-citizens

The relationship of citizens with e-Government focuses on the use of electronic government. The yellow boxes indicate already existing indicators identified in WP2.1 and the green boxes (indicators 1 to 4) show the gaps for which new innovative SIBIS indicators can be developed.

The new SIBIS indicators 1 to 4 will be explained in more detail in the following tables.

Name of indicator	**Indicator 1 Government to citizen:** **Perception indicator from the viewpoint of the citizen:**
Definition	Preference for Electronic Service Delivery—Citizen
SIBIS Survey Question 1	Here is a list of activities that require citizens to get in touch with public administration. For each activity, please answer whether you would prefer to use the Internet or prefer to use the traditional way, that is face-to-face, by postal mail, fax or phone: (a) Tax declaration / filing your income tax return (b) Use of job search services of public employment service (c) Request for passport, driver's licence, birth certificates or other personal documents (d) Car registration (e) Declaration to the police, e.g. in case of reporting theft (f) Searches for books in public libraries (g) Announcement of change of address FOR EACH (1) Internet (2) traditional way (3) do not use this service [DO NOT READ OUT] (4) DK
Categories (Improvements)	•
Sort of survey	GPS
Sources	Based on study: e-Government indicators for benchmarking e-Europe e-Government: ready or not, The Henley Centre, UK
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services
Notes	

Name of indicator	**Indicator 2 Government to citizen:** **Accessibility indicator from the viewpoint of the citizen:**
Definition	Access to Electronic Service Delivery—Citizen
SIBIS Survey Question 2	Here is a list of activities that require citizens to get in touch with public administration. For each activity, is it possible to use the Internet for this in the area you live? (a) Tax declaration / filing your income tax return (b) Use of job search services of public employment service (c) Request for passport, driver's licence, birth certificates or other personal documents (d) Car registration (e) Declaration to the police, e.g. in case of reporting theft (f) Searches for books in public libraries (g) Announcement of change of address
Categories (Improvements)	•
Sort of survey	GPS
Sources	Based on study: e-Government indicators for benchmarking e-Europe e-Government: ready or not, The Henley Centre, UK
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services
Notes	

Name of indicator	**Indicator 3 Government to citizen:** **Perception indicator from the viewpoint of the citizen:**
Definition	Willingness to Access Electronic Service Delivery—Citizen
SIBIS Survey Question 3	Here is a list of activities that require citizens to get in touch with public administration. For each activity, have you every tried using the Internet for this function? (a) Tax declaration / filing your income tax return (b) Use of job search services of public employment service (c) Request for passport, driver's licence, birth certificates or other personal documents (d) Car registration (e) Declaration to the police, e.g. in case of reporting theft (f) Searches for books in public libraries (g) Announcement of change of address
Categories (Improvements)	•
Sort of survey	GPS
Sources	Based on study: e-Government indicators for benchmarking e-Europe e-Government: ready or not, The Henley Centre, UK
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services
Notes	

Name of indicator	Indicator 4 Government to citizen: Perception indicator from the viewpoint of the citizen:
Definition	Usefulness and Convenience of Electronic Service Delivery—Citizen
SIBIS Survey Question 4	For each of the following statements about online services of public administration, please indicate whether you agree. Public services on the Internet ...[item]. (a) are not useful enough (b) are faster than the traditional way (c) require that you install special equipment or software (d) reduce the number of mistakes public authorities make (e) do not seem as safe as using the traditional way (f) make it possible to deal with the authorities at more convenient times (g) make it possible to deal with the authorities at more convenient locations, e.g. from home or from the workplace (h) are difficult to use (1) agree completely (2) agree somewhat (3) do not agree (4) DK
Categories (Improvements)	•
Sort of survey	GPS
Sources	Based on study: e-Government indicators for benchmarking e-Europe e-Government: ready or not, The Henley Centre, UK
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services
Notes	

The questions for Indicators 1, 2, 3 and 4 are based on the questions from the UK study "e-Government ready or not". This study seemed very useful, but only surveyed the UK. The SIBIS-questions are a combination of those questions with the citizen services listed by the European Commission's eEurope initiative as indicators for eGovernment (indicators mentioned by type and level of usage).

The questions were structured to address the issues raised in the analysis of the hierarchical tree. Question 1 deals with alternatives by asking respondents about their preference for Internet or traditional access to government. Question 2 considers barriers to e-government by asking respondents whether or not they can reach e-government services from their homes. Question 3 addresses the willingness of citizens to use e-government by asking them whether or not they have tried these services. Question 4 is less structured and seeks to elicit information about the citizens' perception of e-government.

8.2 Businesses

Just as with citizens, interaction between businesses and government is manifold and varied. In this case, the set of indicators A17-A24 is taken as a representative set of interactions. As an example of the interaction between a business and government, the process of corporation tax declaration can illustrate the contrast between e-government potential and its adoption by the intended users. It might be expected that the possibility of carrying out tax declarations online has reached the level where the whole process can move online, but that businesses limit their use to a less interactive level.

The transactions identified by indicators A17-A24 are noteworthy because of the difference in character between A24 and the rest. A17-A23 refer to services or functions that are offered or sanctioned by government to businesses. For these transactions, businesses are required to participate by providing information or payment to government. What makes A24 particularly interesting is that it reverses the roles. This is the case of public procurement. Governments are the customer in this case and businesses are in no way obligated to interact with them in this function.

The EU has taken the opportunity to build up e-government through e-procurement. One step was to allow free access to the Tenders Electronic Daily (TED) database, which contains tender invitations issued by contracting entities. In addition, potential suppliers can examine the SIMAP website to identify tenders not only in TED but also in other databases.[29] Following an EU-wide study of e-procurement, it was recommended that

> *"Knowledge, competence and education about procurement models like; Infomediaries, electronic notification systems, electronic suppliers and virtual procurer networks must be disseminated and distributed among targeted public authorities and sectoral actors involved in public procurement projects."[30]*

For this reason, the SIBIS survey will elicit from businesses responses about whether knowledge and facility with e-procurement is becoming widespread.

Indicators will be developed to determine whether and why businesses limit their level of interaction with government. This is done separately for each of the listed activities. It is assumed that businesses have access to computers and to the means of communication needed to participate in e-government. Businesses may place a premium on the cost of a transaction as well as on its convenience. Thus, if e-government transactions become more expensive for businesses than following existing protocol, they may avoid online transactions. One reason e-government transactions might be more expensive is that businesses may continue to keep records in the traditional way, e.g. to be prepared for an audit. Another reason why businesses may not make full use of available e-government capabilities might be a lack of information or training within a business. Just as with the case of citizens, businesses may not know how to locate the online resouces they need before they can execute a certain transaction online.

Barriers to the use of e-government by businesses may thus fall into the following categories:

- Online transactions are (or are believed to be) more expensive than their existing counterparts;
- know-how about how to carry out the transaction is not readily available;
- the business user is not willing to carry out the communication online.

The hierarchical structure (figure 3) shows the relation between e-Government and business

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[29] http://europa.eu.int/scadplus/leg/en/lvb/l22001.htm accessed 24 July, 2002.
[30] Analysis of electronic public procurement pilot projects in the European Union Report - November 2000 accessed at http://simap.eu.int/EN/pub/src/welcome.htm on 24 July, 2002.
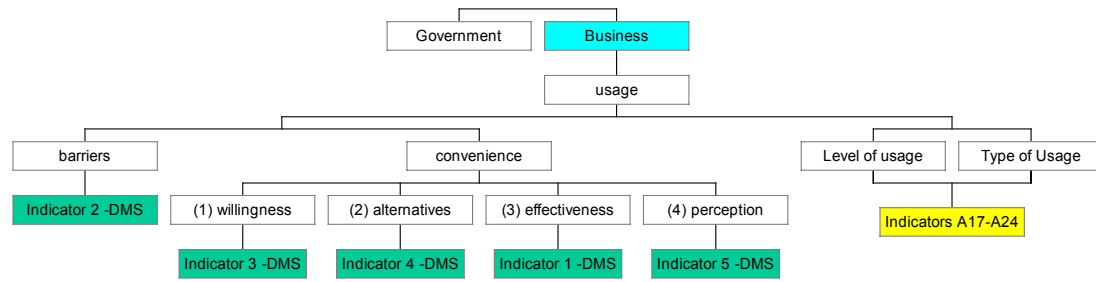
Figure 3: hierarchical structure government-to-business

The only existing indicators are for level and type of usage. These new SIBIS indicators are based on the "e-Government ready or not" study described above, and modified to incorporate the list of public services to business used in indicators A17-A24.

Name of indicator	**Indicator 1 Government to business**
	Effectiveness indicator from the viewpoint of the business
Definition	Perceived advantage of Electronic Service Delivery—Business for the services considered
SIBIS Survey Question 1	What do you see as the main advantages, if any, of electronic service delivery?
	Please indicate the level of importance for each of the services:
	0 = don't know
	1 = not important
	2 = slightly important
	3 = somewhat important
	4 = important
	5 = very important
Categories	• Faster delivery of service to you—no need to send in forms, stand in line, or make telephone calls
	• Generally improved service delivery—filling out the form when time is available, does not require taking time off from the office to meet with government representative
	• More accurate delivery of services to you—getting the right form at the right time
	• Better delivery—requires less time
	• More convenient delivery of services—filling out forms when it is convenient for you
	• More accurate records/fewer errors
	• More cost effective
Sort of survey	DMS
Sources	Based on study:
	e-Government: ready or not, The Henley Centre, UK
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information
	• 3b-2 Member states to ensure generalised electronic access to main basic public services
	• 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	-

Name of indicator	Indicator 2 Government to business
	Barriers indicator from the viewpoint of the business
Definition	Barriers to eGovernment—Business
Question 2	For each of the following possible barriers, would you indicate how relevant this barrier is for your organisation interacting with the following services of electronic government?
	Public Services for Businesses
	• Social contribution for employees
	• Corporation tax: declaration, notification
	• VAT: declaration, notification
	• Registration of a new company
	• Submission of data to statistical offices
	• Customs declarations
	• Environment-related permits (incl. reporting)
	• Public procurement
	Please indicate the level of relevance for each of the possible barriers:
	0 = don't know
	1 = not relevant
	2 = slightly relevant
	3 = somewhat relevant
	4 = relevant
	5 = very relevant
Categories (Barriers)	• I am not aware of e-Government
	• Use of e-government services requires special skills from the employees
	• The organization of government sites makes it difficult to find the necessary information
	• It is easy to get lost when trying to backtrack on the site
	• The site seems to freeze during use
	• It is more time consuming to use the egovernment service than the regular one
	• It is not clear whether the information was received and recorded
	• The government sites require special software
	• Submitting information online does not seem as safe as using the paper alternative
	• Poor content on Government web sites
	• Cost of internet access
	• I don't understand the technology
	• Lack of access
Sort of survey	DMS
Sources	Based on studies:
	• e-Government: ready or not, The Henley Centre, UK
	• e-Government indicators for benchmarking e-Europe

e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information
	• 3b-2 Member states to ensure generalised electronic access to main basic public services
	• 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	This is actually 8 questions

Name of indicator	**Indicator 3 Government to business**
	Willingness indicator from the viewpoint of business
Definition	Improved service delivery
Question 3	To what extent do you think each of the following can improve the (willingness to use) the following electronic government services to you?
	Public Services for Businesses
	• Social contribution for employees
	• Corporation tax: declaration, notification
	• VAT: declaration, notification
	• Registration of a new company
	• Submission of data to statistical offices
	• Customs declarations
	• Environment-related permits (incl. reporting)
	• Public procurement
	Please indicate per service:
	• Yes, it will improve my (willingness to) use electronic government services or
	• No, it will not change my (willingness to) use electronic government services or
Categories (Improvements)	• I will not use it
	• Access page that accesses your records automatically
	• Better use of technologies to improve egovernment
	• Better instructions for using egovernment sites
	• Easy to reach telephone or online help
	• Increased assurance of security when submitting information online
	• The option to provide comments and feedback about egovernment sites
Sort of survey	DMS
Sources	Based on study:
	e-Government indicators for benchmarking e-Europe
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information
	• 3b-2 Member states to ensure generalised electronic access to main basic public services
	• 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	This is actually 8 questions

Name of indicator	**Indicator 4 Government to business** **Alternatives indicator business**
Definition	-
SIBIS Survey Question 4	Which of the following means would you most like to use for the following services interacting with the government? Could you please rank the means in diminishing order of likelihood? Public Services for Businesses • Social contribution for employees • Corporation tax: declaration, notification • VAT: declaration, notification • Registration of a new company • Submission of data to statistical offices • Customs declarations • Environment-related permits (incl. reporting) • Public procurement
Categories (ways of interacting)	• Written • Face to face • Telephone • Internet
Sort of survey	DMS
Sources	Based on studies: • e-Government: ready or not, The Henley Centre, UK • e-Government indicators for benchmarking e-Europe
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services • 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	This is actually 8 questions

Name of indicator	**Indicator 5 Government to business** **Perception indicator business**
Definition	-
SIBIS Survey Question 5	What, if anything, would be the benefits of being able to deal with government electronically? Please indicate the level of importance for each of the possible benefits: 0 = don't know 1 = not important 2 = slightly important 3 = somewhat important 4 = important 5 = very important
Categories (Benefits)	• it would save time • you would be dealt with more quickly • you could deal with government at more convenient times (ie out of office hours) • you could deal with government at more convenient locations • it would be simpler to use than the current system • mistakes would be less likely to happen • you would have more choice of how to deal with government departments • it would save me money • it would cost less to run • their would be less chance for fraud • your details would be more secure and confidential • don't know • I will not use it
Sort of survey	DMS
Sources	Based on study: e-Government: ready or not, The Henley Centre, UK
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services • 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	-

8.3 Government

Intra-government transactions are manifold. They generally involve the transfer of information from one agency or office to another. Many systems are already computerised and some are linked together so that explicit transfers need not occur because the information is available immediately between government users.

As information and communication technologies (ICT) continue to evolve, new applications may become available for online interaction between government agencies. Indicators must be developed to gauge progress of linking up new processes or sources of information. Barriers to adoption must be identified here also.

As pointed out in WT 2.1, one area where the implementation of new and more sophisticated e-government functions may be hindered is where existing computer systems exist. Legacy systems that were built prior to widespread standards for the handling and storage of data must be replaced or somehow adapted to the new vision of e-government if information transfers are to occur.

By analogy with indicators A1-A24, it is essential to determine what proportion of intra-government transactions is already accessible via ICT and what level of online interaction they have reached. The same four-point scale can be used to characterise the level of interaction.

1. information—online information about the service,

2. interaction—downloading of forms,

3. two-way interaction—processing of forms, including authentication,

4. transaction—case handling (decision and delivery).[31]

Having established the level of sophistication of available intra-governmental online applications, the next step will be to measure whether potential users make use of these applications at the expected level of sophistication. If they do not, existing barriers to intra-government interaction should be identified.

Although most governmental agencies are investing in training employees in the use of their new e-government systems, lack of user know-how is likely to be a major barrier for the adoption of e-government. It may also be that the necessary equipment for using these new applications is not in place. In addition, ease of use and effectiveness of e-government functions should also be evaluated as a potential barrier to their adoption.

Barriers to the adoption of e-government by government agencies are thus:

• Insufficient training of potential users of e-government applications,
• lack of adequate equipment,
• ineffective or inefficient set-up and design of e-government applications.

For determining the hierarchical structure for governments' online services two issues are of importance:

• potential for e-government (related to citizens, business and between governments)
• usage within and between governmental organisations.

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[31]   eEurope 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March, 2001.
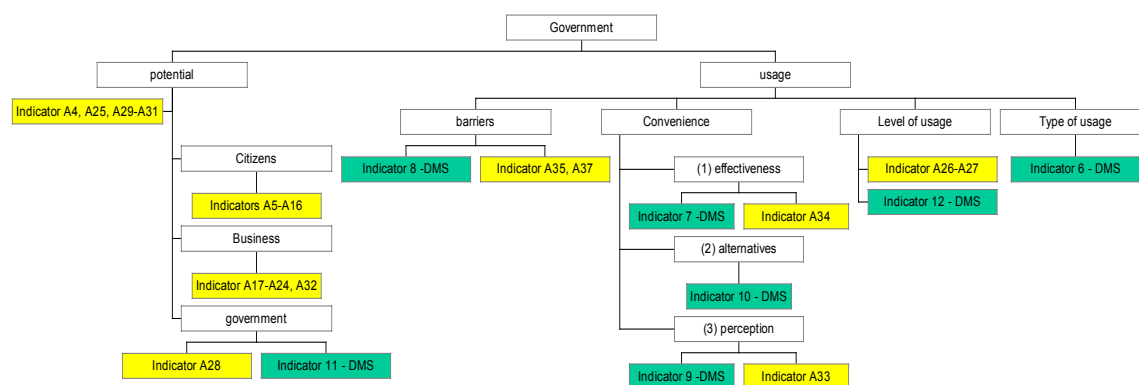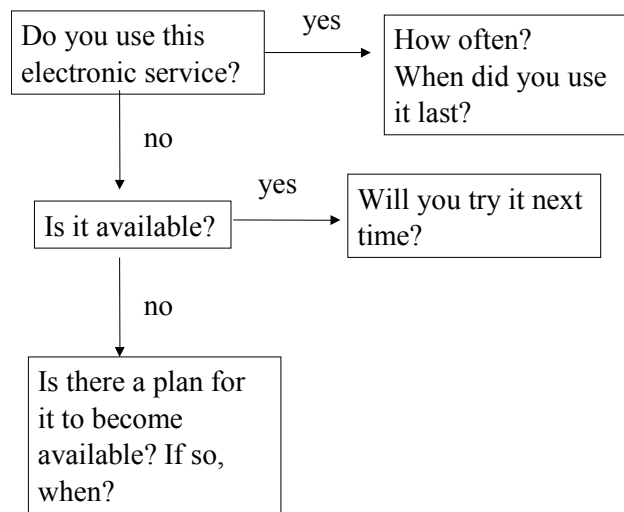
Figure 4: hierarchical structure governments

The new SIBIS-indicators 7– 10 and 12 focus on the usage of e-government by governmental organisations. Indicator 11 will give some more insight in the potential for electronic government within governmental organisations.

Name of indicator	**Indicator 6 Government**
	Type of Usage indicator
Definition	-
SIBIS Survey Question 6	Do you use electronic systems to • Transfer information within your department? • Transfer information from your department to another? • Transfer information from other departments to your own? • Transfer information to citizens • Transfer information to business • Download information If yes: how often? When did you use it last? If no: is it available? • If yes: will you try it next time? • If no: is there a plan for it to become available? If so when?
Sort of survey	DMS
Sources	-
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services • 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company • 3b- 5 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union
Note	-

Figure 5 gives a schematic representation of Question 6.

```
┌─────────────────────┐        yes     ┌──────────────────────┐
│ Do you use this     │ ─────────────> │ How often?           │
│ electronic service? │                │ When did you use     │
└─────────────────────┘                │ it last?             │
           │                           └──────────────────────┘
           │ no
           ▼
     ┌──────────────────┐    yes     ┌──────────────────────┐
     │ Is it available? │ ─────────> │ Will you try it next │
     └──────────────────┘            │ time?                │
              │                      └──────────────────────┘
              │ no
              ▼
     ┌──────────────────┐
     │ Is there a plan for │
     │ it to become        │
     │ available? If so,   │
     │ when?               │
     └──────────────────┘
```

Name of indicator	**Indicator 7 Government to citizen** **Effectiveness indicator from the viewpoint of the government**
Definition	Perceived advantage of Electronic Service Delivery – Governments
SIBIS Survey Question 7	What do you see as the main advantages, if any, of electronic service delivery? Please indicate the level of importance for each of the services: 0 = don't know 1 = not important 2 = slightly important 3 = somewhat important 4 = important 5 = very important
Categories	• Faster delivery of services to citizens • Generally improved service delivery • More accurate delivery of services to citizens • Better Value-for-Money / Cost savings • More convenient delivery of services to citizens • Ability to cope with more enquiries • Less duplication between departments • More personalised/tailored approach to service delivery • More accurate records/fewer errors • An improved image for government/my service • Better/more equal relationship with the citizen
Sort of survey	DMS (questions to governments: central/local/regional)
Sources	Based on study: e-Government: ready or not, The Henley Centre, UK
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services • 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	-

Name of indicator	Indicator 8 Government to citizen
	Barriers indicator from the viewpoint of the government
Definition	Barriers to eGovernment – Governments
SIBIS Survey Question 8	For each possible issue I read out, please tell me whether or not you see it as a barrier for your organisation?
	• Yes, this is a barrier for our organisation
	• No, this is not a barrier for our organisation
Categories (barriers)	• Lack of relevant skills among employees
	• Too many overlapping initiatives/duplication
	• Back-end integration of different IT systems
	• Departmentalism / rigid structure
	• Lack of funding
	• Legacy systems
	• Lack of common standards
	• Information security / confidentiality
Sort of survey	DMS
Sources	Based on study:
	e-Government: ready or not, The Henley Centre, UK
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information
	• 3b-2 Member states to ensure generalised electronic access to main basic public services
	• 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	-

Name of indicator	**Indicator 9 Government to citizen/government to government/government to business** **Perception indicator from the viewpoint of the government**
Definition	Improved service delivery
SIBIS Survey Question 9	To what extent do you think each of the following can improve your organisation's service delivery? Please indicate the level of importance for each of the improvements: 0 = don't know 1 = not important 2 = slightly important 3 = somewhat important 4 = important 5 = very important
Categories (improvements)	• sharing of information and resources across departments • better use of ICT in dealing with public an business • better training for staff • better use of ICT inside your organisation • more resources/staff • clearer set of objectives on ICT • best value reviews • faster and more cost effective purchasing • improved staff commitment
Sort of survey	DMS
Sources	Based on study: e-Government: ready or not, The Henley Centre, UK
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services • 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	-

Name of indicator	Indicator 10 Government
	Alternatives indicator
Definition	-
SIBIS Survey Question 10	Which of the available alternatives (written, face-to-face, telephone, internet) do you use mostly for interacting with citizens? And for interacting with business?
	Examples of Public Services for Citizens
	• Income taxes: declaration, notification of assessment
	• Job search services by labour offices
	• Social security contributions (like: Unemployment benefits, Child allowances, Medical costs (reimbursement or direct settlement), Student grants)
	• Personal documents (passport and driver's licence)
	• Car registration (new, used and imported cars)
	• Application for building permission
	• Declaration to the police (e.g. in case of theft)
	• Public libraries (availability of catalogues, search tools)
	• Certificates (birth and marriage): request and delivery
	• Enrolment in higher education / university
	• Announcement of moving (change of address)
	• Health related services (interactive advice on the availability of services in different hospitals; appointments for hospitals)
	Examples of Public Services for Businesses
	• Social contribution for employees
	• Corporation tax: declaration, notification
	• VAT: declaration, notification
	• Registration of a new company
	• Submission of data to statistical offices
	• Customs declarations
	• Environment-related permits (incl. reporting)
	• Public procurement
Categories (Means)	• written
	• face-to-face
	• telephone
	• internet
Sort of survey	DMS
Sources	Based on studies:
	e-Government: ready or not, The Henley Centre, UK
	e-Government indicators for benchmarking e-Europe
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information
	• 3b-2 Member states to ensure generalised electronic access to main basic public services
	• 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	-

Name of indicator	**Indicator 11 Government** **Potential – government indicator**
Defnition	-
Question 11	We are interested in learning to what extent you can transfer information online in your organisation. Please tell us whether you can carry out the following processes online: • Transfer information within your department? • Transfer information from your department to another? • Transfer information from other departments to your own? • Transfer information to citizens • Transfer information to business Can you • download information from the Internet? • access the intranet of your own agency? • access the intranet of other government agencies?
Categories	Please use the following scale to rate the ability to carry out the processes above: ns = not sure 0 = cannot carry out the process 1 = view information only 2 = can post and view information 3 = can modify existing information to tailor it to customer needs
Sort of survey	DMS
Sources	-
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services • 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	Relation with question 6

Name of indicator	Indicator 12 Government **Level of Usage indicator**
Definition	-
SIBIS Survey Question 12	For each of the activities described in Indicator 11, do you also carry out these activities by other means, e.g. in person or by phone or fax (yes/no)? If yes, how large is the share of transactions of this kind you carry out online? • Transfer information within your department? • Transfer information from your department to another? • Transfer information from other departments to your own? • Transfer information to citizens • Transfer information to business • Download information • Access intranet of your own agency • Access intranet of other agencies
Categories	Share of transactions carried out online: • 100% • Between 75% and 100% • Between 50% and 75% • Between 25% and 50% • Between 0% and 25% • 0%
Sort of survey	DMS
Sources	-
e-Europe relevance	• 3b-1 Essential public data online including legal, administrative cultural, environmental and traffic information • 3b-2 Member states to ensure generalised electronic access to main basic public services • 3b- 3 Simplified online administrative procedures for businesses e.g. fast track procedures to set up a company
Note	In this case, we could try to get frequency information or something about the fraction of time spent on carrying out functions by electronic or paper, or telephone means. Closely related to question 10 and 6.

8.4   Composite Indicators

8.4.1   Existing composite indicators[32]

Composite indicators combine information available from individual indicators to provide insight that each indicator alone cannot. The indicators A5 – A24 measure the stage in which each of the 20 defined basic public services (12 for citizens and 8 for businesses) are available on-line. These indicators can be combined to provide a global measure of e-government across the different services. The advantage of this approach is that it gives information about the overall progress of the Member States. Finer analysis will concentrate on each of the services to see where each Member State leads or lags, but a general standing can be measured from the composite indicator.

To operationalise each indicator, the level of online sophistication of each service has been measured. A **four stage framework** is applied in several countries. For the eGovernment indicators, the following model has been used:

*   Stage 1 Information: online info about public services,

*   Stage 2 Interaction: downloading of forms,

*   Stage 3 Two-way interaction: processing of forms, incl. authentication,

*   Stage 4 Transaction: case handling; decision and delivery (payment).

The **methodology** proposed for measuring the degree to which a service is available online is based on the method developed by the Dutch government.[1] This degree depends on the extent to which it is possible to carry out a service electronically. All four stages above may not be relevant for all types of public services. For each service the highest relevant stage is therefore indicated. The basic premise in the method for calculating the 'online percentage' of a service is whether or not a service reaches a given stage. A service that is offered as a full transaction can, for example, achieve a maximum of four points (each stage corresponds to 1 point). The score can therefore be between 0 and 4 points (0 indicating that none of the stages is achieved).

The composite indicator is computed by adding the sum of the scores obtained for each of the services. In this way, the degree to which the agreed set of public services are available can be calculated as a percentage. For the purpose of this exercise, account will *not* be taken of the relative importance of the various services in terms of the number of customers using the service. Two different member states will be deemed to have achieved a comparable level of e-government implementation when their composite scores are equal. In this way, two countries that reach Stage 4 for two different functions will receive the same composite score.

8.4.2   Suggestions for composite SIBIS-indicators

The composite indicators described in the previous section are based on the availability of the services on-line and the stages at which it is possible to interact with the government on-line. A composite indicator can be built by adding the scores obtained for each of the government services identified in the survey. One composite indicator might be called the composite preference and would show the general preference for e-government by summing the preference for Internet across each of seven services. If the Internet is preferred, the score would be incremented by one. Similarly, an access composite indicator could be built to estimate e-government access across the selected government services. A willingness composite indicator would show whether the respondents have been willing to try these services. Finally, a set of perception indicators could be built from each of the statements read to respondents for Question 4.

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[32]   e-Government indicators for benchmarking e-Europe, 23 February 2001

9 Conclusions and Outlook

Government interacts with a number of parties using different modes. By analogy, e-government can be expected to operate in a similar context. The main lines of communication of concern to e-government are:

- government to citizen,
- government to business,
- and government to government.

The distinction between citizens, businesses, and government is important because these groups (will) have different reasons for deciding whether or not to make use of e-government services. Use by citizens may be limited by accessibility, for example, while businesses may be concerned with efficiency and effectiveness, and government may want to ensure that the processes enabled by e-government are more efficient and effective than those they replace.

A good understanding of how e-government is developing requires two sets of indicators. The first group of indicators sets a vision for the direction e-government should take. The second group measures the performance of e-government in relation to this vision. Most of the existing indicators fall into the first group, as they focus on the availability of e-government services. Almost no indicators exist that are looking at the perception of the users of e-government services. In addition, the perception of governments themselves about the use of electronic government is an unattended issue. Recently, iIndividual countries have made strides in the development of the second group of indicators that provide information about the state of e-government and its adoption. For example, the UK has developed indicators about the extent to which citizens are adopting e-government. A similar set of indicators is needed for the entire EU to provide cross-country data on the use of e-government and its outcomes.

The SIBIS-indicators described in this report seek to fill the gap in the second group of indicators. This document has outlined a set of new indicators which address the issue of acceptance and adoption of e-government by the potential users. In addition, barriers to the adoption of e-government will be identified to guide policy making in this area. Based on these indicators, specific questions for inclusion in population and decision-maker surveys are suggested. For these questions, respondents either provide an answer along a numerical scale or choose one of several options related to e-government. Most of the new SIBIS indicators focus on basic public services as defined by the European Commission[33].

The SIBIS-indicators on government-to-citizen e-government seek to measure:

- Perception: advantages and benefits of electronic service delivery
- Barriers: barriers for using e-government
- Willingness to use online services by government
- Alternatives: use and perceived usefulness of e-government applications in comparison to traditional means of interaction

The SIBIS-indicators on government-to-business e-government focus on:

- Effectiveness: perceived advantages of electronic service delivery
- Barriers: barriers using e-government
- Willingness to use online services by government
- Alternatives: use and perceived usefulness of e-government applications in comparison to traditional means of interaction
- Perception: benefits of using electronic service delivery

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[33]   see Annex A.

Indicators for government-to-government are of increasing importance, but not many indicators exist already. The SIBIS-indicators in this area focus on:

• Type of usage

• Effectiveness: perceived advantages of electronic service delivery

• Barriers for using electronic government

• Perception: improvements of electronic service delivery

• Alternatives: preferred usage of different means

• Potential: system connections available

• Level of usage

These new SIBIS-indicators allow for a much broader view of patterns of usage, preferences, barriers and interest of actual or potential users of electronic government. This will help guide policy makers at EU, nation state and regional/local level to decide about the directions which developments of e-government applications have to take in the future.

Using information from the proposed questions it is possible to construct composite indicators. Two types of composite indicators are proposed here. The first type gives an index of e-government adoption of various public services. Individual public services receive a score that reflects the level of sophistication of the service. The scores of individual services are then combined to provide a measure of how sophisticated public services as a whole are. The second type of composite indicators group responses to questions by type. For example, questions that identify barriers related to skills needed to use e-government services are combined to give an index of deficiency in skills among respondents who do not use e-government. The exact design and calculation arithmetic of these composite indicators will be further refined before results will be presented as part of WP5.

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11   ANNEX A: Basic public services

Public Services for Citizens

1.   Income taxes: declaration, notification of assessment

2.   Job search services by labour offices

3.   Social security contributions like:
     -   Unemployment benefits
     -   Child allowances
     -   Medical costs (reimbursement or direct settlement)
     -   Student grants

4.   Personal documents (passport and driver's licence)

5.   Car registration (new, used and imported cars)

6.   Application for building permission

7.   Declaration to the police (e.g. in case of theft)

8.   Public libraries (availability of catalogues, search tools)

9.   Certificates (birth and marriage): request and delivery

10. Enrolment in higher education / university

11. Announcement of moving (change of address)

12. Health related services (interactive advice on the availability of services in different hospitals; appointments for hospitals)

Public Services for Businesses

1.   Social contribution for employees

2.   Corporation tax: declaration, notification

3.   VAT: declaration, notification

4.   Registration of a new company

5.   Submission of data to statistical offices

6.   Customs declarations

7.   Environment-related permits (incl. Reporting)

8.   Public procurement

12   ANNEX B: Existing Indicators on E-Government

Name of indicator	A1 Percentage of the population who regularly use the Internet
Definition	Percentage of the population who regularly use the Internet
Notes	Definition: all forms of use to be included, no matter where. Population ≥ 15. Regularly to be defined at least weekly
	This indicator has broad applicability to the information society
Sources	Liste des indicateurs d'étalonnage pour le plan d'action *e*Europe.
	20 November, 2000.
Countries covered	All EU Member States
Time series available	Twice-yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to:
	3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible
	3b-2 Member states to provide generalised electronic access to main basic public services by 2003
	1a-4 Availability of low-cost, high-speed networks for Internet access
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A2, A3, A4

Name of indicator	A2 Percentage of households with Internet access at home
Definition	Percentage of households with Internet access at home
Notes	This indicator has broad applicability to the information society
Sources	Liste des indicateurs d'étalonnage pour le plan d'action eEurope.
	20 November, 2000.
Countries covered	All EU Member States
Time series available	Twice-yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to:
	3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible
	3b-2 Member states to provide generalised electronic access to main basic public services by 2003
	1a-4 Availability of low-cost, high-speed networks for Internet access
Future value	Internet access at home, like the telephone, may be viewed at a later time as a basic necessity rather than an option. As this occurs, the market will saturate and this indicator will cease to carry any meaning.
Links to other indicators	A1, A3, A4

Name of indicator	A3-1 Government services online, Internet users % visiting government websites
Definition	Percentage of internet users visiting government sites
Notes	Question: Do you interact with your public administration via the Internet (trough a Web site or by e-mail) • Regularly Occasionaly Rarely n.a. Follow-up question: Did you interact with your public via the Internet in the last month (trough a Web site or by mail) ? e-mail) ? Yes No n.a.
Sources	Eurobarometer
Countries covered	EU Countries (member states)
Time series available	February and June 2001
eEurope relevance	3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	This indicator will probably lose meaning very shortly, as municipalities can easily establish an online presence.
Links to other indicators	A1, A2, A3-2, A4

Name of indicator	A3-2 Usage of government services online; type of use
Definition	Type of use as % of all internet users, split up by: • finding/downloading information (for info) • e-mail inquiries • submission of forms/filling forms
Notes	Question: I am going to list several reasons for getting on line with your public administration. Could you tell me if you have already used this kind of services ? • finding/downloading information • e-mail inquiries • submission of forms • other online services • no never • n.a.
Sources	Eurobarometer
Countries covered	EU Countries (member states)
Time series available	February and June 2001
eEurope relevance	3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	This indicator will probably lose meaning very shortly, as municipalities can easily establish an online presence.
Links to other indicators	A1, A2, A3-1, A4

Name of indicator	A4 Percentage of municipalities with an on-line presence
Definition	Percentage of municipalities with an on-line presence
Notes	-
Sources	Eurobarometer. April, 2000.
Countries covered	All EU Member States and additional countries.
Time series available	Twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	This indicator will probably lose meaning very shortly, as municipalities can easily establish an online presence.
Links to other indicators	A1, A2, A3

Name of indicator	A5 Online services concerning income tax declarations
Definition	Availability of online services concerning income tax declarations, mapped on a 4 point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A6-A15

Name of indicator	A6 Online job search services by labour offices
Definition	Availability of online job search services by labour offices, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	A7 Online services concerning social security contribution payments
Definition	Availability of online services concerning social security contribution, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	**A8 Online services concerning applications for personal documents**
Definition	Availability of online services concerning applications for personal documents, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	A9 Online services concerning car registration
Definition	Availability of online services concerning car registration, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	**A10 Online services concerning applications for building permissions**
Definition	Availability of online services concerning applications for building permissions , mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	A11 Online services concerning declarations to the police
Definition	Availability of online services concerning the ability to declare events to the police, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	A12 Online access to public libraries
Definition	Availability of online access to public libraries , mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	A13 Online services concerning request and delivery of certificates
Definition	Ability to request and obtain delivery of certificates (birth and marriage) online, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	A14 Online services for enrolment in higher education / university
Definition	Ability to enroll in higher education / university online, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	A15 Online services concerning change of address
Definition	Ability to hand in announcements of moving online, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	Suggestions how to link this indicator to others (e.g. for test of correlation, test of aggregation, etc.)

Name of indicator	A16 Online offer of health-related public services
Definition	Ability to obtain health-related public services online, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A5-A16

Name of indicator	A17 Online services concerning payment of social contribution for employees
Definition	Availability of online services concerning payment of social contribution for employees, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-3 Develop a co-ordinated approach for public sector information, including at European; by the European Commission level by the end of end 2000. • 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union (through the IST and IDA programmes); by European Commission, Member States during 2001.
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A18-A24

Name of indicator	**A18 Online services concerning corporation tax declarations**
Definition	Availability of online services concerning corporation tax declarations, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-3 Develop a co-ordinated approach for public sector information, including at European; by the European Commission level by the end of end 2000. • 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union (through the IST and IDA programmes); by European Commission, Member States during 2001.
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A17-A24

Name of indicator	**A19 Online services concerning VAT declaration**
Definition	Availability of online services concerning VAT declaration, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-3 Develop a co-ordinated approach for public sector information, including at European; by the European Commission level by the end of end 2000. • 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union (through the IST and IDA programmes); by European Commission, Member States during 2001.
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A18-A24

Name of indicator	**A20 Online registration of a new company**
Definition	Ability of a business to register a new company online, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-3 Develop a co-ordinated approach for public sector information, including at European; by the European Commission level by the end of end 2000. • 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union (through the IST and IDA programmes); by European Commission, Member States during 2001.
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A18-A24

Name of indicator	A21 Online services concerning submission of data to statistical offices
Definition	Availability of online services concerning submission of data to statistical offices, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-3 Develop a co-ordinated approach for public sector information, including at European; by the European Commission level by the end of end 2000. • 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union (through the IST and IDA programmes); by European Commission, Member States during 2001.
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A18-A24

Name of indicator	A22 Online services concerning customs declarations
Definition	Ability of businesses to process customs declarations online, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-3 Develop a co-ordinated approach for public sector information, including at European; by the European Commission level by the end of end 2000. • 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union (through the IST and IDA programmes); by European Commission, Member States during 2001.
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A18-A24

Name of indicator	A23 Online services concerning obtaining environment-related permits
Definition	Availability of online services concerning obtaining environment-related permits, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-3 Develop a co-ordinated approach for public sector information, including at European; by the European Commission level by the end of end 2000. • 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union (through the IST and IDA programmes); by European Commission, Member States during 2001.
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A18-A24

Name of indicator	**A24 Online public procurement services**
Definition	Ability of businesses to obtain information and participate in activities related to public procurement online, mapped on a four-point scale. • Information: online info about public services • Interaction: downloading of forms • Two-way interaction: processing of forms, including authentication • Transaction: case handling; decision and delivery (payment)
Notes	-
Sources	e-Europe 2002, Impact and Priorities. Communication from the Commission to the Council and the European Parliament. 23-24 March 2001.
Countries covered	All EU Member States
Time series available	twice yearly
eEurope relevance	Which of the 6 eEurope actions within this topic does the indicator refer to: • 3b-3 Develop a co-ordinated approach for public sector information, including at European; by the European Commission level by the end of end 2000. • 3b-4 Promote the use of open source software in the public sector and e-government best practice through exchange of experiences across the Union (through the IST and IDA programmes); by European Commission, Member States during 2001.
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	A18-A24

Name of indicator	A25 Percentage of public services available on the internet
Definition	Availability of public services on the Internet; percentage of electronic services provided by the government sector
Notes	Each government body provides a wide range of services and products. The most important ones (measured in terms of the number and frequency of contacts) have been included in the survey. A distinction is made in this connection between products for citizens and products for the business community.
	This composite indicator is based on four stages for several public 'products' per authority: information, electronic intake, electronic aids and electronic transaction. Websites of all authorities accessible via www.overheid.nl have been examined in relation to the selected products. Yes/no answers were given for each of the four possible stages, possible scores are 0 to 4 (none, and the 4 stages). Two calculations were used:
	1) compare the sum of the scores on all products and levels with the sum of the maximum possible score (e.g. not for all products a score of 4 will be possible)
	2) first calculate % of each product by dividing the score by the maximum achievable score and then average it over all the products.
	In this way the percentage of electronic service can be calculated for each authority.Weighted by the number of inhabitants (citizens) or by the number of jobs (businesses); weighted by relative number of contacts of citizens and businesses with the government sector to achieve an overall average (all authorities).
Sources	25% electronic public service delivery in the Netherlands, March 2001, Ministry of Interior and Kingdom relations, survey carried out by the NEI
Countries covered	Netherlands
Time series available	autumn 2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible
	• 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	The new eEurope 2001 eGovernment indicators are based on this Dutch 'weighted' principle

Name of indicator	A26 Internal use of ICT, Access to the Internet
Definition	Percentage of central government workplaces with internet access
Notes	Based on websearch; a large volume of the latest statistics and other source material was consulted, compiled an analysed.
Sources	International ICT Benchmark 2000, websearch Deloitte and Touch Bakkenist (see also: Quick Scan: ICT in de publieke sector)
Countries covered	Portugal, United Kingdom, Sweden, Australia, Finland, Canada, Netherlands
Time series available	1999
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	-

Name of indicator	A27 Internal use of ICT, Access to e-mail
Definition	Percentage of central government workplaces with e-mail
Notes	Based on websearch; a large volume of the latest statistics and other source material was consulted, compiled an analysed
Sources	International ICT Benchmark 2000, websearch Deloitte and Touch Bakkenist (see also: Quick Scan: ICT in de publieke sector)
Countries covered	Portugal, United Kingdom, Sweden, Australia, Finland, Canada, Netherlands
Time series available	1999
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	-

Name of indicator	**A28 Availability of a (central) government network or intranet**
Definition	Availability of a (central) government network or intranet
Notes	A (central) government network or intranet facilitates co-operation between different organisations, such as secure data exchanges and address searches.
Sources	International ICT Benchmark 2000, websearch Deloitte and Touch Bakkenist (see also: Quick Scan: ICT in de publieke sector)
Countries covered	Portugal, United Kingdom, Sweden, Australia, Finland, Canada, Netherlands
Time series available	1999
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	

Name of indicator	**A29 Accessibility of government organisations and information**
Definition	Web presence:% of municipal authorities with a website
Notes	-
Sources	International ICT Benchmark 2000, websearch Deloitte and Touch Bakkenist (see also: Quick Scan: ICT in de publieke sector)
Countries covered	Portugal, United Kingdom, Sweden, Australia, Finland, Canada, Netherlands
Time series available	1999
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	-

Name of indicator	A30 Availability of government information at portals
Definition	Availability of government information at portals: • Score 1: no policy information • Score 2: general policy information • Score 3: score 2 + policy papers • Score 4: score 3 + information system
Notes	A portal is defined as a general government website from where you have access to all the available governmental information of the country; policy papers: official policy documents like White Papers, publications and so on.
Sources	International ICT Benchmark 2000, websearch Deloitte and Touche Bakkenist (see also: Quick Scan: ICT in de publieke sector)
Countries covered	Portugal, United Kingdom, Sweden, Australia, Finland, Canada, Netherlands
Time series available	1999
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	-

Name of indicator	A31 Availability of government information at municipal sites
Definition	Availability of government information at municipal sites: • Score 1: no policy information • Score 2: general policy information • Score 3: score 2 + policy papers • Score 4: score 3 + information system
Notes	-
Sources	International ICT Benchmark 2000, websearch Deloitte and Touch Bakkenist (see also: Quick Scan: ICT in de publieke sector)
Countries covered	Portugal, United Kingdom, Sweden, Australia, Finland, Canada, Netherlands
Time series available	1999
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	Internet access, like other technologies will gradually be adopted by the population and this indicator will become less relevant with time. How fast it loses meaning will depend on how quickly Internet becomes a part of every day life.
Links to other indicators	-

Name of indicator	A32 Percentage of municipality websites with e-procurement
Definition	Percentage of municipality websites with e-procurement
Notes	Websearch at municipal sites
Sources	websearch Deloitte and Touch Bakkenist; Quick Scan: ICT in de publieke sector)
Countries covered	Portugal, United Kingdom, Sweden, Australia, Finland, Canada, Netherlands, Japan, France, Germany
Time series available	1999
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	**A33 Improved Service Delivery-Central Government**
Definition	Improved Service Delivery-Central Government
Notes	Question to (management) central government: To what extent do you think each of the following can improve your organisation's service delivery? • Sharing of information and resources across departments • Better use of ICT in dealing with public and business • Better training for managers • Better use of ICT inside your organisation • More resources/staff • Clear set of objectives from central government • Faster and more cost effective purchasing • Improved staff commitments
Sources	eGovernment: Ready or Not. The Henley Centre.
Countries covered	UK; based on 75 interviews with central government
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	A34 Perceived Advantages of Electronic Service Delivery- Central Government
Definition	Perceived Advantages of Electronic Service Delivery- Central Government
Notes	Question to (management) central government: What do you see as the main advantages, if any, of electronic service delivery? • Faster delivery of services to citizens' • Generally improved service delivery • More accurate delivery of services to citizens • Better VFM • More convenient delivery of services to citizens • Ability to cope with more enquiries • Less duplication between departments • More personalised/tailored approach to service delivery • More accurate records/fewer errors • An improved image for government/my service • Better/more equal relationship with the citizen
Sources	eGovernment: Ready or Not. The Henley Centre.
Countries covered	UK;based on 75 interviews with central government
Time series available	2000
eEurope relevance	3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	A35 Barriers to e-Government- Central Government
Definition	Barriers to e-Government-Central Government
Notes	Question to (management) central government: For each possible issue I read out, please tell me whether you see it as a barrier for your organisation or not? • Lack of relevant skills among managers • Too many overlapping initiatives/duplication • Backend integration of different IT systems • Departmentalism/rigid structures • Lack of funding • Legacy systems • Lack of common standards • Information security/confidentiality
Sources	Egovernment: Ready or Not. The Henley Centre.
Countries covered	UK; based on 75 interviews with central government
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	
Links to other indicators	

Name of indicator	**A36 Perceived Advantages of Electronic Service Delivery-Local & Regional Government**
Definition	Perceived Advantages of Electronic Service Delivery-Local & Regional Government
Notes	Question to (management) local and regional government: What do you see as the main advantages, if any, of electronic service delivery? • Faster delivery of services to citizens' • Generally improved service delivery • More accurate delivery of services to citizens • Better VFM • More convenient delivery of services to citizens • Ability to cope with more enquiries • Less duplication between departments • More personalised/tailored approach to service delivery • More accurate records/fewer errors • An improved image for government/my service • Better/more equal relationship with the citizen
Sources	Egovernment: Ready or Not. The Henley Centre.
Countries covered	UK; based on 100 interviews with local and regional government
Time series available	2000
eEurope relevance	3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	**A37 Barriers to e-Government-Local & Regional Government**
Definition	Barriers to e-Government-Local & Regional Government
Notes	Question to (management) local and regional government: For each possible issue I read out, please tell me whether you see it as a barrier for your organisation or not? • Lack of relevant skills among managers • Too many overlapping initiatives/duplication • Backend integration of different IT systems • Departmentalism/rigid structures • Lack of funding • Legacy systems • Lack of common standards • Information security/confidentiality
Sources	EGovernment: Ready or Not. The Henley Centre.
Countries covered	UK; based on 100 interviews with local and regional government
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	A38 Preferred Channel to Interact with Government
Definition	Preferred Channel to Interact with Government
Notes	Question to citizens: Which of the following means would you most like to use for interacting with the government? Percentage agreeing: • Written correspondence • Face to face • Telephone • Internet via PC • Internet via digital TV • Internet via games console • Internet via mobile phone • Internet via public kiosk
Sources	Egovernment: Ready or Not. The Henley Centre.
Countries covered	UK; ethnographic study involved recruiting 30 families and individuals, spending time with them in their 'natural' environments, where their attitudes and behaviours in relation to government could be observed and analysed
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	**A39 Most Important Barriers by Segment**
Definition	Most Important Barriers by Segment
Notes	Question to citizens: For each of the following issues, please tell me whether or not you see it as a barrier for using electronic government? • Lack of access • Cost of internet access • Poor content on government websites • Lack of incentive • Hardware costs • Not aware of egovernment • Not understanding the technology
Sources	eGovernment: Ready or Not. The Henley Centre.
Countries covered	UK; ethnographic study involved recruiting 30 families and individuals, spending time with them in their 'natural' environments, where their attitudes and behaviours in relation to government could be observed and analysed
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	**A40 Contradictory Views About What e-Government Will Do to Human Contact**
Definition	Contradictory Views About What e-Government Will Do to Human Contact
Notes	Open question to citizens: What are your ideas about the effects of egovernment on human contacts?
Sources	eGovernment: Ready or Not. The Henley Centre.
Countries covered	UK; ; ethnographic study involved recruiting 30 families and individuals, spending time with them in their 'natural' environments, where their attitudes and behaviours in relation to government could be observed and analysed
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	**A41 Do Consumers Prefer Email or the Phone?**
Definition	Do Consumers Prefer Email or the Phone?
Notes	Open question to citizen
Sources	eGovernment: Ready or Not. The Henley Centre.
Countries covered	UK; ethnographic study involved recruiting 30 families and individuals, spending time with them in their 'natural' environments, where their attitudes and behaviours in relation to government could be observed and analysed
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	**A42 Confidence in the Civil Service**
Definition	Confidence in the Civil Service
Notes	Question to citizens; percentage who agreed they have 'a great deal/a fair amount' of confidence in civil services
Sources	eGovernment: Ready or Not. The Henley Centre.
Countries covered	UK
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	**A43 Finding Out About Benefits**
Definition	Finding Out About Benefits
Notes	Question to citizens about central government departments and agencies (applications for delivery of e-government); percentage agreeing very/fairly easy.
	Is it easy to request information on benefits?
	• Ever done
	• Easy to do
	• Important to do online
Sources	EGovernment: Ready or Not. The Henley Centre.
Countries covered	UK
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible
	• 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	**A44 Demand for Electronic Services**
Definition	Demand for Electronic Services
Notes	"Which of the following types of community information would you like to access electronically?
	• Local council services/events
	• Information on Job Centre adverts
	• Details of college/university courses
	• Guidance on taxation
	• Guidance on state benefits/allowances
	• Performance tables for colleges/schools
	• Social statistics
	• Information on hospital facilities
	• Information on how to run a business
	• Contact details for MPs
Sources	EGovernment: Ready or Not. The Henley Centre.
Countries covered	UK
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible
	• 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	A45 Public Readiness for e-Government
Definition	Public Readiness for e-Government
Notes	"What, if anything, would be the benefits of being able to deal with government electronically?" • it would save time • you would be dealt with more quickly • it would be an easier way of getting information • you could deal with government at more convenient times (ie out of office hours) • you could deal with government at more convenient locations • it would be simpler to use than current system • mistakes would be less likely to happen • you would have more choices of how to deal with government departments • it would save me money • it would cost less to run • there would be less chance of fraud • your details would be more secure and confidential • other • none of these/don't know
Sources	Egovernment: Ready or Not. The Henley Centre.
Countries covered	UK
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	A46 Mode of Access to Government
Definition	Mode of Access to Government
Notes	"Which, if any, of these devices have you used to get information, advice or to deal with the government, in the last twelve months?" • touchscreen • interactive TV • personal computer with keyboard • telephone services (Advice lines, help lines, catalogue selling) • none of these • don't know
Sources	EGovernment: Ready or Not. The Henley Centre.
Countries covered	UK
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

Name of indicator	A47 Internet Penetration by Nation
Definition	Internet Penetration by Nation
Notes	Percentage of people who regularly access the Internet from work, home or a public access terminal
Sources	Egovernment: Ready or Not. The Henley Centre.
Countries covered	UK, US, Sweden, Finland, Netherlands, Germany, France, Spain, Italy, Portugal
Time series available	2000
eEurope relevance	• 3b-1 Efforts by public administrations at all levels to exploit new technologies to make information as accessible as possible • 3b-2 Member states to provide generalised electronic access to main basic public services by 2003
Future value	-
Links to other indicators	-

A similar approach is proposed for the measures of openness and interactivity.