



**The State Secretary for
State Computerisation**

Fed-e-View

**A study on the computerisation of the
federal administration**

Analysis of results

**An initiative by the State Secretary for State Computerisation
Peter Vanvelthoven, November 2004**

Address: Rue Marie-Thérèse 1 – 3rd floor – 1000 Brussels
Tel.: 02/212.92.11 **Fax :** 02/212.92.22

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1. Why?

When Peter Vanvelthoven was appointed State Secretary for State Computerisation, it became apparent that no-one had any real insight into what was taking place within the federal administration in the field of Information and Communication Technologies (ICT); investment, the method of investment, the number of persons involved in ICT, the existing infrastructure, etc.

Such an insight is essential for defining a suitable strategy: what is the extent of computerisation? Who uses the foundations of e-government developed by the Federal Public ICT Service, Fedict¹, and who doesn't use them? Which public and semi-public services need our support more than others? Where is there a risk of problems arising? What are the ICT requirements?

Consequently, the State Secretary arranged for a tool, *Fed-e-View*, to be developed in order to measure the extent of computerisation in federal departments. In this way, he can give them greater assistance with the development and implementation of their own computerisation policies.

2. How?

Together with Finland and Italy, Belgium is one of the first European countries to have developed a measurement tool of this type and to have measured the extent of computerisation within the administration. The Fed-e-View tool was developed in consultation with ICT managers from the public services. In total, the ICT managers of nearly 50 departments were consulted and involved².

3. What is being studied and what are the objectives?

The purpose is not to measure the ICT performance of each department but rather to get an idea of the extent of computerisation within the federal administration, and particularly in the "back office". The services offered on websites – i.e. the "front office" part – were not listed or evaluated, and the extent to which these services were used by the population was not measured.

The concrete objectives are:

- to determine and implement indicators of the computerisation process at different levels (from the strategic level to the technological);
- an initial measurement of these indicators, and
- the development of a computerisation "barometer" on the basis of these indicators.

¹ These technological foundations include the broad-band Fedman network, the UME middleware that allows electronic exchanges of data, the environment of the federal portal, the electronic identity card, user administration, authentic sources (National Register, Crossroads Bank for Enterprises, etc). The use of these foundations by administrations makes it possible to integrate their *back offices*. See the policy note for a detailed description of the e-government approach.

² This involved: all the Federal Public Services (FPSs), the Ministry of Defence, the Federal Institute for Administrative Training (IFA), the Federal Administration's Selection Bureau (Selor), The Federal Agency for the Safety of the Food Chain (FASFC), the Federal Public Planning Service (PPS) Science Policy (Belspo), the federal scientific institutions, the Building Authority, the Crossroads Bank for Social Security (CBSS), the public social security institutions (the semi-public social organisations), plus the Council of State and the National Audit Office.

The barometer is a tool for internal use and is intended for the State Secretary for State Computerisation, for all ICT managers and the Heads and General Administrators of the departments concerned.

An overall result was drawn up, and each person participating in the measurement process received a detailed report on his department. The participants are thus able to place themselves in the overall context, without knowing the details of other public services. The following analysis is limited to the overall results.

4. Methodology

4.1 Procedure and approach to the project

We are not dealing here solely with an inventory, but a measurement tool. In order to draw up a list of “computerisation indicators”, the study team opted for a “balanced scorecard” approach. This consists of evaluating the computerisation process from various perspectives. The following perspectives were identified:

- Strategic
- Financial
- Organisational (procedures)
- Personnel-related
- Technological

For each perspective, the study team defined a series of indicators, on the basis of the factors for success for a proper level of computerisation. This list of indicators, together with their definitions, was discussed with a sample group of ICT managers. Subsequently, the list of indicators was sent to all ICT managers in federal departments for them to complete.

4.2 Method of consolidation

The 120 specific indicators were grouped into 21 “overall indicators”, thus making up the federal barometer. These overall indicators are split into two types:

- Firstly, there is a series of overall indicators calculated directly from the completed list of indicators (for example F1 – ICT budget per operator).
- Secondly, there are overall indicators for which a scale of scores from 0 to 100 has been defined. Each specific indicator contributes to the score following a system of weighting (for example S1 – Harmonisation of mission and ICT strategy).

These 21 overall indicators are shown in the list below, divided into the 5 perspectives.

Fig. 1: list of the 21 overall indicators divided into the 5 perspectives of the computerisation process

<p>Strategic perspective: S1: harmonisation of public service mission and ICT strategy S2: strategic elements of e-government – is the e-government strategy accepted and implemented? S3: use of evaluation tools in order to be able to measure ICT performance</p>
<p>Financial perspective: F1: ICT budget per civil servant F2: percentage of ICT budget devoted to new initiatives F3: percentage of ICT budget devoted to outsourcing Note: the last 2 indicators are provided but are not immediately usable: they still need to be defined in a uniform manner</p>
<p>Perspective relating to personnel: P1: percentage of ICT personnel compared with total personnel P2: percentage of ICT staff available for projects (as opposed to personnel available for operations and maintenance of applications) P3: percentage of vacant posts P4: own internal capacity (for carrying out “development projects” using own personnel) P5: departmental dynamics P6: training</p>
<p>Organisational perspective (ICT procedure): O1: service management O2: project management O3: security management O4: information management O5: availability of ICT resources</p>
<p>Technological perspective: T1: availability of computerised workstations T2: quantity of electronic data per operator T3: concrete use of e-government components T4: soundness of ICT resources</p>

The following key figures were extracted from the data sent in by the departments and totalled up for the administration as a whole:

- The total ICT budget,
- The total number of ICT staff, both internal (statutory civil servants, contract civil servants) and external (external personnel detached to a department on a permanent basis),
- The total number of internal ICT staff under 30 years old and over 50,
- The total number of vacant positions,
- The total number of computerised workstations available for administration staff, on the basis of the number of PC workstations, terminals and portable computers shown.

4.3 Limitations

We are dealing here with the perception of ICT managers. Their replies have not been checked.

The comparison between departments is difficult and is not one of the survey’s aims:

- The departments are all represented in an equivalent manner in the graphs, there is no weighting taking into account, for example, of the size of a department.
- The method of administration is not the same, e.g. between the Federal Public Services and the semi-public social organisations.

- Likewise, the budgetary principles applied to the Federal Public Services are different from those of the National Audit Office and the Council of State.

5. Results

46 departments were consulted and all took part in the survey, which demonstrates a high level of interest in this tool. On average, ICT managers devoted half an actual working day to it, spread over several days.

For each overall indicator, the scores of each department have been reproduced in the form of graphs. The median³ of each graph has been reproduced. This median also takes account of abstentions; the fact that an ICT manager was unable to reply to an indicator is an indication in itself.

What really counts here is the general appearance of each graph, the position of the median, and the comparison in one year.

The most significant overall indicators are shown below. The 12 federal scientific institutions form part of the barometer, and their data are reproduced in the results and in the key figures, but they have not been repeated in the graphs below (except with regard to fig. 2), principally due to the small size of their ICT departments, but also to improve the legibility of the graphs.

Since we are dealing with a tool for internal work and the aim is not to compare departments, the latter are not referred to by name. A system of colours representing their state of progress in terms of e-government (fig. 2) is used in all the other graphs.

Here we must make a note of the special position of the Crossroads Bank for Social Security (CBSS). This was set up in 1990 and its main mission is to handle exchanges of electronic data between social security institutions. It is the driving force and co-ordinator of e-government in the social security sector. It is therefore logical that this department should be highly advanced in terms of computerisation, and therefore that it should get high scores for the majority of indicators.

5.1 Introduction

First of all, back-office integration and the state of progress in the field of e-government were presented. Next, the various aspects of the computerisation process (strategy, budgets, personnel, procedure and technology) were reviewed using the overall indicators most representative of the five perspectives. Finally, a brief comparison with other countries was made.

5.2 Towards an “interconnected government”

Two overall indicators, namely S2 and T3, were intersected in order to position the departments in relation to the Belgian e-government strategy of integration of the back-office. Belgium has chosen to place the emphasis on exchanges of information between the various public services and on the development of foundations or components allowing these exchanges rather than on the electronic transposition of existing administrative formalities.

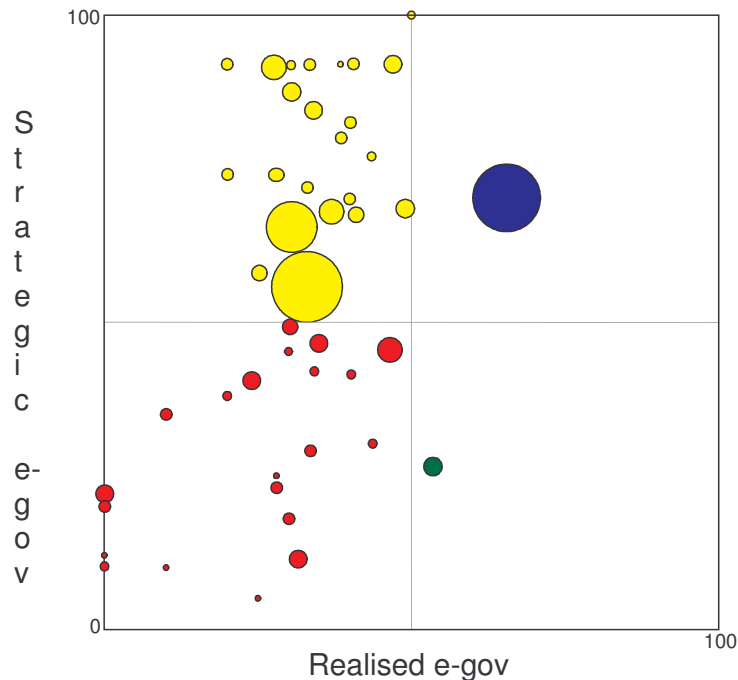
The indicator S2 is the vertical axis and shows the scores for the extent to which e-government forms part of the department’s strategy. In other words, the vertical axis reflects, on a scale of 0 – 100, the extent to which the basic principles of e-government (acceptance of the foundations of e-government, use of unique identifying keys, the concept of authentic sources, policy of open standards, existence of transversal projects – between administrations) are taken up and/or observed.

³ The value of the median indicates that there are as many departments with a lower value as there are with a higher value. The median is less influenced by extreme values than the average.

The indicator T3 is the horizontal axis and reflects, on a scale of 0 – 100, the concrete use of the foundations of e-government that are necessary for integrating the various back-offices and for introducing full electronic services (in Tax-on-web, for example, the integration of the back-offices of the various administrations will make pre-completion of electronic tax declarations possible). The foundations of e-government are the technical foundations of e-government. For example: the network and middleware between administrations (Fedman and UME), the environment of the federal portal, the single sign-on and the web services.

In the figure, the size of the circles gives an indication of the size of the administration in question.

Figure 2: Position of federal departments in the e-government matrix



- The departments situated in the lower left-hand quadrant (in red) are those that are least developed in terms of e-government. E-government strategy is not yet strongly integrated into the department's ICT strategy and the foundations of e-government are used very little or not at all. Here we find around half of all the departments, including the 12 federal scientific institutions. These departments must therefore be supported as a priority by the State Secretary for State Computerisation.
- The department in the lower right-hand quadrant (in green) is a department in which e-government strategy is not strongly integrated into the departmental ICT strategy but where the foundations of e-government are nevertheless used a little more than in the departments in the previous quadrant. It should be noted that this department is situated at the extreme edge of the quadrant and that it may therefore be likened to the departments of the lower left-hand quadrant.
- The departments in the upper left-hand quadrant (in yellow) are those in which e-government strategy is well integrated into the departmental ICT strategy, but where the foundations of e-government are still not widely used. Here, too, we see half the total number of departments, including all the semi-public social organisations. These departments are already well advanced in terms of the integration of back-offices. Support from the State Secretary for State Computerisation consists above all of assistance during the implementation of the foundations of e-government.

- The department in the upper right-hand quadrant (in blue) is the most advanced in terms of back-office integration. The e-government strategy is recognised and integrated in the ICT strategy and the foundations of e-government are used. Here, therefore, we are dealing with a sound base that allows the development of complete electronic services and can also automatically allocate certain rights to citizens and companies. The goal, of course, is to have a maximum number of departments in this quadrant so as to achieve “interconnected government”.

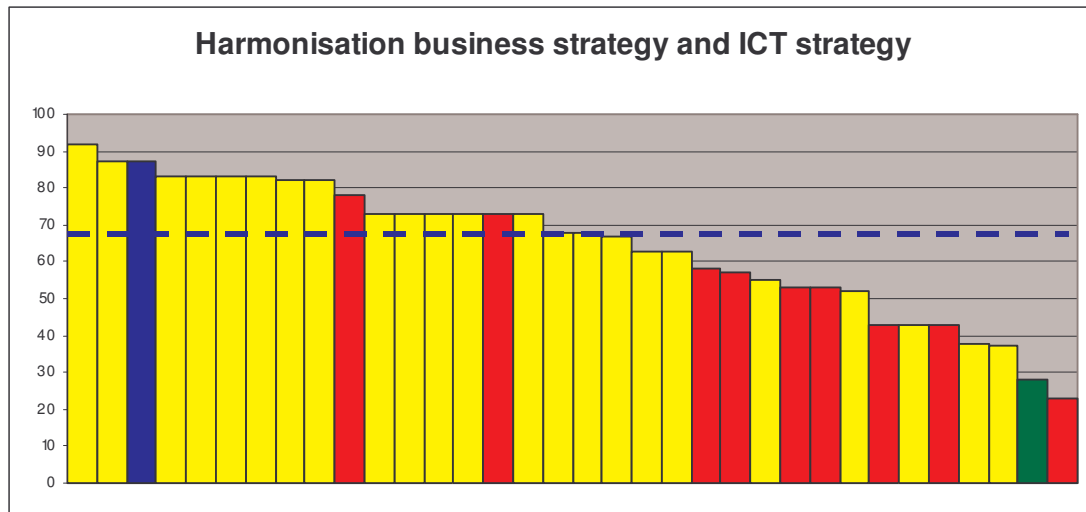
5.3 The various perspectives of the computerisation process

5.3.1 The strategic perspective

What strategy is being followed by the public services with regard to the computerisation process? Are ICT plans being harmonised with missions and the administration’s plans? Do ICT departments regularly evaluate the way in which they function?

Indicator S1 – Harmonisation of mission and ICT strategy

This indicator reflects, on a scale of 0 – 100, the extent to which the ICT department aligns and adjusts its strategy and its priorities towards those of the administration’s overall mission and whether it has the appropriate instruments at its disposal (such as portfolio management).



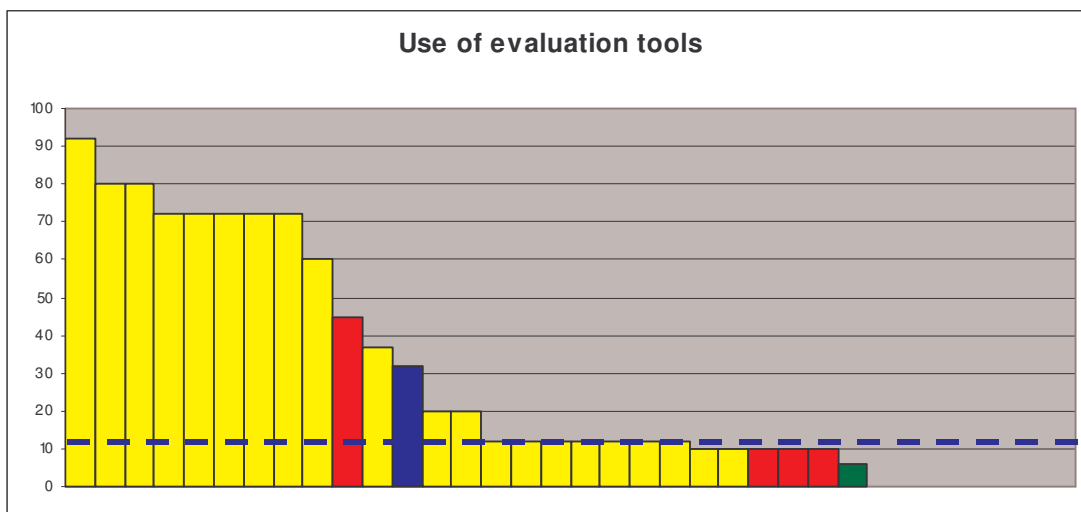
Certain departments have an ICT strategy that is totally harmonised with the administration’s mission, such as, for example, the Crossroads Bank for Social Security (CBSS), the Federal Public Service Social Security and the Federal Public Service Finance (a score of over 80 out of 100).

The departments that have made the least progress with regard to e-government (in red, c.f. fig.2 above) – and therefore where the basic principles of e-government receive less attention and where the various foundations of e-government are little used – are almost all found below the median.

The target is for each department to have an ICT strategy that is in line with the administration’s mission. In other words, the median on the graph should be higher than it is at present. The State Secretary for State Computerisation is able to offer his support here, above all in the field of internal consultation and good practice (in particular with regard to portfolio management).

Indicator S3 – Use of evaluation tools

The indicator S3 reflects, on a scale of 0 – 100, the extent to which the ICT department uses methods and instruments to gain an idea of its own performance. This involves instruments such as performance indicators for measuring provision of services, benchmarking, audits, etc.



This indicator shows major variations between departments. Certain departments already have a culture of measuring ICT performance. For example, this is the case in the CBSS and the FPS Social Security, as well as the Federal Agency for the Safety of the Food Chain (FASFC), which is a new department. Conversely, other departments have scored zero.

The median is very low. Here, too, those departments that have made the least progress in terms of e-government have low scores or even zero.

The goal, of course, is for the majority of departments to use evaluation tools. The State Secretary’s initiatives will focus on the development of a methodology and the formulation of recommendations on this subject, especially by identifying and exchanging good practices. This study is already a way of providing administrations with a mechanism for evaluating their functioning. Another possible action is the drawing-up of a framework contract that the various departments could use when carrying out audits.

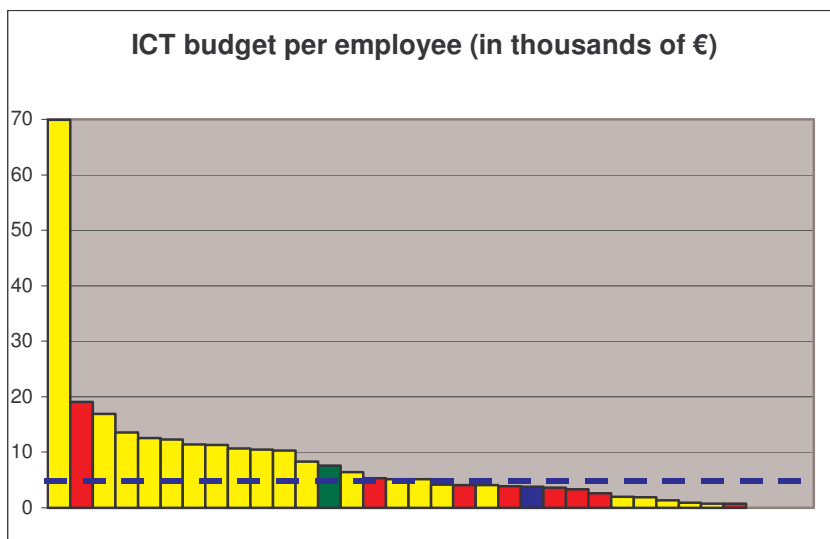
5.3.2 The financial perspective

The total ICT budget of the federal administration⁴ is 407 million euros (figure for 2003, not including the salaries of ICT staff). This represents around 2.5 % of the budget of a public service.

The majority of this budget goes towards development, maintenance, and the functioning of the applications corresponding to the specific missions of each administration, with each administration managing its own ICT budget. Around 8% of the 407 million euros goes towards the development of the joint e-government strategy, the foundations of e-government that can be re-used by everyone, and the co-ordination of exchanges of information between the various administrations.

Indicator F1 – ICT budget per civil servant

This indicator calculates the average ICT budget per year and per civil servant (on the basis of the total number of full-time equivalents), expressed in thousands of euros. The ICT budget includes budgets for purchasing and investment in equipment and logistics, plus budgets for the development, maintenance and running of applications. Civil servants' salaries are not included.



The median is situated at around 4200 euros per civil servant; the average is 3450 euros per civil servant. The CBSS, with 70,000 euros per civil servant, is an exception that is completely justified, given that its principal mission is to handle exchanges of electronic data between social security institutions.

Here, too, those departments that have made the least progress in terms of e-government tend to find themselves below the median, but this is also the case for the most advanced department (in blue).

The objective is not a general increase in the ICT budget for each civil servant, but increases where necessary in line with priorities.

⁴ This involves the budget for all those departments taking part in the survey except the FPS Home Affairs

5.3.3 The perspective with regard to personnel

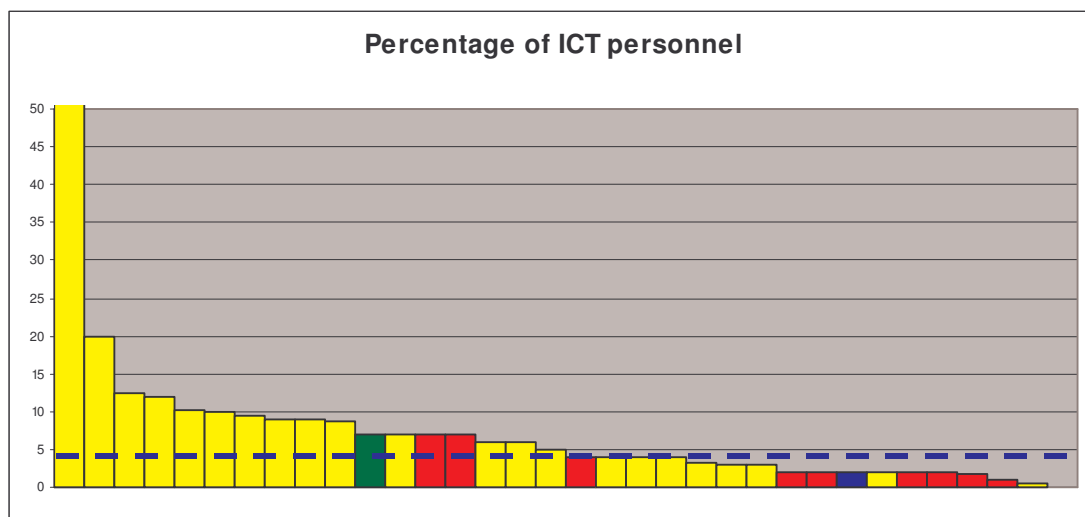
The Federal administration has around 4,800 FTEs (full-time equivalents)⁵ working in ICT, which represents 4% of the total personnel.

If all the projects have to be carried out as stated in the various strategic ICT plans, the administration will, in the short term, need 677 new ICT civil servants; i.e. an increase of 14% in existing staffing levels, with highly diverse qualifications. This does not mean that they will all be taken on; the priorities of the various projects can be listed and civil servants can be trained for a career in ICT.

Another problem will also arise in the relatively short term: 576 ICT civil servants (statutory civil servants and contract civil servants) are over 50. Many current ICT skills will therefore disappear within 10 years. It is not easy to replace them, and these departures will above all pose problems for the maintenance of existing computer systems. Many systems have actually been developed by civil servants; when they leave, they will take with them their knowledge of these systems.

Indicator P1 – Percentage of ICT personnel in relation to total number of personnel

This indicator calculates the percentage of ICT personnel in relation to the total number of civil servants in the administration (on the basis of the quantity of FTEs indicated). Here we are dealing with the total number of ICT personnel: statutory civil servants, contract civil servants, and the external personnel detached to a department on a permanent basis.



As in the case of the indicators relating to strategy and budgets, those departments that have made the least progress in terms of e-government have proportionally fewer ICT personnel. At the same time, we note that this is also the case in the most advanced department (in blue).

The CBSS also constitutes an exception here: due to its mission, half of its workforce consists of ICT specialists.

The aim is not a general increase in the proportion of ICT personnel across all departments, but to provide personnel in accordance with vacancies and priorities.

⁵ FPS Home Affairs not included

Indicator P6 – Training of ICT personnel

This overall indicator reflects, on a scale of 0 – 100, the extent to which ICT personnel are sufficiently trained to carry out current tasks, as well as the extent of retraining and the existence of training programmes.



Here there is no correlation with the extent of progress in terms of e-government. We may observe that certain departments have well-trained ICT personnel and have good training programmes in place, whereas this is not the case in other departments.

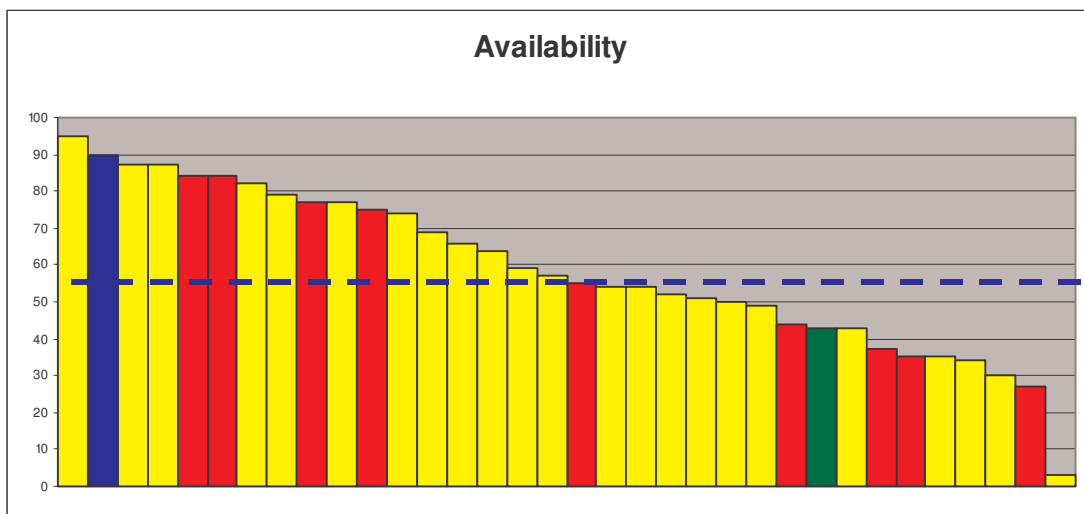
The State Secretary's initiatives on this subject will take place in consultation with the Civil Service Minister. The aim is to improve recruitment, training, and career plans for the various ICT qualifications.

5.3.4 The organisational perspective (ICT process)

The administration has specific requirements with regard to the ICT process. Concerning the handling of security, for example, the administrations are seeking common regulations. Here again there are other questions requiring answers and a common policy: to what extent should civil servants have access to the Internet? How do we achieve the secure circulation of e-mails? To what extent may personal data be used, and how? In the field of management of information or methods of running ICT projects, ICT managers are seeking greater uniformity.

Indicator O5 – Availability of ICT

This graph reflects, on a scale of 0 – 100, the availability of ICT for users, such as helpdesk service hours and the availability of ICT services during and outside working hours.



In general, one may say that the availability of ICT is high within the federal administration. The differences in availability between administrations are not large. There is little correlation with the state of progress in terms of e-government.

The objective is an increase in this availability, above all from the perspective of an electronic administration with 24-hour availability.

5.4 Comparison with other countries

The majority of European countries have not yet carried out a survey like Fed-e-View. Only Italy and Finland carry out similar surveys, and have done so for several years. The French Senate, too, in 2004, made an inventory of the level of computerisation in the French public services with a view to budgetary control, but the data are not comparable to those of Fed-e-View.

Fig. 3 : Percentage of ICT personnel, ICT budget per civil servant, and the number of computerised workstations per civil servant in four other countries

	Belgium	Finland	Italy	Hungary	Great Britain
Percentage of ICT personnel	4%	3.2	3.6	No data available	
ICT budget per civil servant (not including salaries)	3451 euros	4550	2580	No data available	
Number of computerised workstations per civil servant	0.77	1.3 (incl. PC for clients)	0.91 (only civil servants who need a PC)	0.82	0.82

The process of computerisation within the Belgian Federal administration is comparable to that found in other European countries. This is equally true for the available budget per civil servant, the number of computerised workstations, and the number of ICT personnel within the administration.

5.5 Summary of results

Half the administrations have an e-government strategy in place and their back offices are beginning to integrate with those of other administrations. The target is for the greatest possible number of administrations to follow this strategy and use the foundations of e-government; in other words, that they should use unique identifiers, connect to the National Register and the existing Crossroads Banks (Crossroads Bank for Enterprise and Crossroads Bank for Social Security) instead of requesting data each time from citizens and companies (principle of one-off collection of data), and that they should design data files that are accessible to other administrations, all the while observing the principles of access and data protection (especially through the use of electronic identity cards).

Complete electronic services may be developed on this basis; for example the pre-completion of electronic tax declarations, calculation of taxes, and, if necessary, the speedier reimbursement of taxes.

All the public services have developed an ICT strategy. In the majority of cases, this also corresponds to the strategic plan within their administration. The majority of public services, however, do not use tools for evaluating their ICT functioning.

The federal administration devotes 407 million euros to ICT, which represents around 2.5 % of the budget of a public service. In total, the federal administration has 90,000 PCs or terminals, which means that around 77% of all civil servants have a computerised workstation at their disposal.

There are nearly 4,800 civil servants working in ICT, that is 4% of the total personnel. If all the projects are to be implemented as mentioned in the various ICT management plans, the administration will need 677 new civil servants in the short term, with widely varying qualifications. A major problem also arises in the relatively short term: 576 civil servants working in ICT (statutory civil servants and contract civil servants) are more than 50 years

old. Many current ICT skills will therefore disappear within the next 10 years. It is not easy to replace them, and these departures will above all pose problems for the maintenance of existing computer systems.

In terms of the ICT process, the public services have specific requirements. Concerning the handling of security, for example, they are seeking common regulations. Here again there are questions requiring an answer and a common policy: to what extent should civil servants have access to the Internet? How do we achieve the secure circulation of e-mails? To what extent may personal data be used, and how? In the field of management of information the methods of running ICT projects, ICT managers are seeking greater uniformity.

6. Conclusions

6.1 New evaluation in 2006

We are dealing here with a snapshot of the level of computerisation within the federal administration. 21 overall indicators have been deployed. Analysis of the results allows us to define specific objectives and immediately link these to action points, in individual terms (for each public service) and on an overall basis. A second evaluation will take place in late 2006, so that we may also gain an overall view of the progress made in comparison with 2004.

This does not involve a benchmarking instrument or a performance-measuring tool. It is not possible to draw up a general classification of departments according to their degree of computerisation. There is no overall score, just 21 indicators divided between the 5 perspectives.

The results have not been weighted according to the size of the departments or their abilities. The fact that one department may have a higher score than another does not mean that the former is achieving higher levels of performance. The results are inherent in the missions and histories of the various administrations.

6.2 Users' wishes

Until now, we have concentrated exclusively on the internal functioning of the federal administration: the integration of *back offices* and the use of the foundations of e-government. In parallel with Fed-e-View, we want to have a survey carried out every two years into the wishes and expectations of users.

These users – citizens, companies and also civil servants – will thus be able to report their level of satisfaction with regard to existing and future electronic services. In this way we intend to be able to fix the priorities for the projects we set up.

6.3. The value created by the use of ICT

To complement this, we also want to be able to quantify the benefits of using the foundations of e-government and e-government in general. What impact does the use of information and communication technologies have on administrations, citizens and companies? What value is created by ICT projects?

6. 4 Fedict, the public service that develops e-government strategy, must certainly continue with the development of:

- the foundations of e-government,
- methods for measuring ICT performance,
- a common method of project management,
- a consistent policy and common methods of handling information, and
- common regulations relating to security and access to information.

6.5 Roadshow

In January, Fedict will launch a roadshow, in order to visit all those who participated in the survey and give them an in-depth explanation on how to use the foundations of e-government. The aim is clearly to be able to cut costs in each department by pooling certain systems.

6.6 Consultation

In consultation with the Civil Service Minister, Christian Dupont, the State Secretary will also examine how training programmes and career plans for ICT personnel may be improved. Ways of making it easier for the administration to take on new ICT staff will be introduced.