



## Network based transformation in **Social Security** and Employment Systems



# Contents

<b>Challenges Facing Social Security and Employment Agencies</b>	<b>2</b>
The Changing Marketplace	
The Need for Coordinated Strategies	
The Ageing Population	
<hr/>	
<b>Initiatives in Social Security</b>	<b>5</b>
Australia           Centrelink	
France             CAF	
Italy               INPS and INAIL	
United Kingdom   UK Online and Knowledge Network	
United States     SSA	
<hr/>	
<b>Initiatives in Employment</b>	<b>17</b>
Belgium           VDAB	
Canada            HRDC	
United Kingdom   Worktrain	
United States     Career OneStop	
Private Sector    Cisco Systems	
<hr/>	
<b>New Opportunities</b>	<b>22</b>
Coherence	
Cost Savings	
Communications	
Fraud Prevention	
Customer Focus	
<hr/>	
<b>Conclusion</b>	<b>25</b>

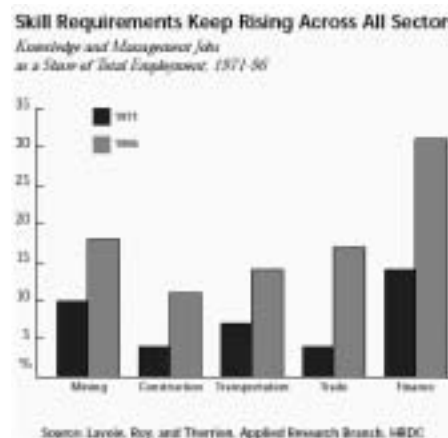
# The Challenges Facing Social Security and Employment Agencies

The public sector is becoming increasingly reliant on the Internet and its associated technologies. Governments worldwide have recognised the potential benefits the Internet offers in terms of cost savings, transparency, and interactivity. In every subsector of government, there is a drive to increase the number and quality of electronic services. There are few issues more politically sensitive than those of employment and social security. Governments around the world have been looking to harness the potential of the Internet and related technologies to help find solutions to these challenges—though technology alone cannot provide all the answers.

## The Changing Marketplace

Technology is actually part of the problem. The decline of heavy industry in the west, along with the revolution brought about by the Internet, has rendered many employees and their skills obsolete. Even where heavy industry remains, there is now a greater proportion of knowledge and management jobs, all of which require a familiarity with new technology. Even the most experienced manual workers can find themselves ‘underskilled’ and unemployable (see fig 1).

**Figure 1** Rising skill requirements for Canada



Figures for Canada

A rise in unemployment necessarily incurs fiscal damage: a reduction in tax revenue plus an increase in social security expenditure. So, in countries around the world, there is an urgent effort to ensure that the public sector contributes to the search for better ways to re-train and re-educate workers so they remain employable and competitive in the global marketplace. Now, more than ever, employment, education, and social services are interdependent.

But this interdependency is not always reflected in the way public services are organised. Many countries have separate agencies handling taxation, employment, education, adult learning, and the distribution of social benefits. Bureaucratic barriers between departments are hindering cooperation and progress. The changes in the marketplace, therefore, must be matched by a change in government thinking.

### **The Need for Coordinated Strategies**

This paper includes examples of some highly successful employment and social security initiatives from around the world. But these can in a sense become victims of their own success. For example, as unemployment is reduced, it becomes exponentially more difficult to get those remaining unemployed people into work. It is at this point that governments begin to consider alternative strategies for reducing the benefits burden.

One such strategy is to tackle the problem of benefit fraud. A combination of new technology and new thinking can be very effective here. Data-rich ID cards have been used to make fraudulent claims more difficult, while integrated government information networks help different agencies pool their knowledge of the same individual and more easily detect anomalies. For example, if the claimant has just registered an expensive new car with the U.S. Department of Motor Vehicles, they are unlikely to be granted unemployment benefit.

These are instances of truly effective government teamwork—where different institutions act together and collaborate across jurisdictional and departmental lines to achieve seamless service and solutions. Such integrated solutions not only reduce costs and generate politically advantageous statistics, but also improve social justice and facilitate informed policy decisions.



## **The Ageing Population**

But again, the success of some government departments has caused problems for others. Improvements in healthcare and living standards have led to a longer average lifespan and greater pressure on the pensions system. At the current rate, this pressure will soon become unendurable, with government pension schemes collapsing under the steadily increasing demand. Moreover, the post-war 'Baby Boom' has created a surge in retirement that is due to arrive in 2006-8. Preparations for this huge increase in expenditure (and administration) must already be in place.

Agencies continually adjust processes and pursue new initiatives to improve service and program management and efficiency. But in the United States, for example, by 2010 the demographic shift created by the ageing of the baby boomers will push growth in disability beneficiaries to an estimated 46 percent above today's levels. Retirement beneficiaries will increase by more than 15 percent and Supplemental Security Income recipients will increase by about 10 percent. The most diligent incremental management improvements cannot protect social security agencies from such a dramatic surge in work.

Reactions to this problem have included a gradual raising of the compulsory retirement age (as in the United States); and the abolition of payments to surviving spouses (as is being considered in the United Kingdom). Another reaction has been to edge the responsibility for pensions provision towards the private sector. Individuals are warned that they can no longer expect a state pension to support them sufficiently in their old age, and should make arrangements accordingly.

However, this dissipation of responsibility has led to confusion in many economies. Individuals are offered little guidance as to what they can expect from the government when they retire, and there is a mass of conflicting information from the private sector as companies clamour to attract investment to their particular savings schemes. Today, every pensions agency's first responsibility is communication: the public needs to know what they are entitled to, and how they can best supplement their income upon retirement.

A secondary issue is the number of pensions experts who will themselves be retiring, reducing the collective expertise of the industry just at the moment it is most needed. The U.S. Social Security Administration has determined the potential impact:

As we calculate it today, if we try to process the Baby Boom work the way we do it now, we would need as many as 20,000 additional work years by 2010 to maintain current service levels. Meanwhile, SSA's own capable workforce is ageing and will begin retiring in greater numbers. By 2010, over 28,000 of the Agency's employees will retire and another 10,000 will leave for other reasons. The retirement wave will create a significant drain on SSA's institutional knowledge. Based on these projections, between now and 2010, SSA will be faced with replacing over half its current workforce.

(“Social Security Agency Strategic Plan” SSA, 2000)

This perfectly demonstrates the educational pressure at both ends of the employment market. Not only must workers be trained to handle new technologies as they arrive, but they must also try to absorb the knowledge of their oldest and most experienced colleagues as they leave. As in any other sector, social security workers must be constantly re-educated and re-trained if their organisations are to be successful. In short, a convergence of demographic, economic, and technological factors has created a number of substantial challenges for governments in their provision of social welfare and employment policies. The complex and interrelated nature of these challenges means that, increasingly, government departments will have to work closer together, across traditional lines of responsibility, and by building systems that allow for the sharing of information and resources.

# Initiatives in Social Security



**Figure 2 AUSTRALIA - Centrelink Home Page**  
[www.centrelink.gov.au](http://www.centrelink.gov.au)

Centrelink (fig2) is responsible for delivering services, programs and payments for government departments in Australia. The “Centrelink Strategic Framework 2002-2007” outlines a number of strategies being pursued to pave the way for electronic service delivery across a wide range of Centrelink’s services and products.

The “framework” consists of two documents:

## **Centrelink Strategic Directions 2002-2007**

- **Client partnerships**—To build partnerships with client agencies that deliver the required results and provide value for money.
- **Customer and community**—To increase customer and community involvement and satisfaction with services.
- **Centrelink people**—To provide Centrelink people with confidence, knowledge, skills, and tools to meet the challenges of current and future business and their own career aspirations.
- **Cost efficiency**—To manage our business efficiently and return a dividend to the government.
- **Innovation**—To provide innovative and personalised solutions, consistent with government policy.
- **Best practice**—To be first choice and benchmarked as the best practice in service delivery.

## Centrelink Business Plan 2002-2007

During the next four years, Centrelink will pursue eight business objectives:

- 1 **Access**—providing assisted and more appropriate access for customers and the Australian community through an increasing range of services through the Internet and call centres, and enhanced support for face-to-face services in either customer service centres, remote area service centres, contracted agents, access points, or other settings. Centrelink is streamlining the engagement process through the implementation of the customer account. The need for face-to-face intervention will be determined by introducing the concept of risk profiling.
- 2 **Business**—continuing to improve strategic and day-to-day operations, throughout this program of change, to ensure that reliable service delivery remains a top priority while increasing new business.
- 3 **Correctness and accuracy**—enhancing capacity to pay the right person under the right program, at the right rate, for the right date by continuing to improve our quality processes and staff training and introducing decision support systems. This will address both payment and referrals to appropriate human services providers, to ensure the right outcomes for customers and citizens.
- 4 **Delivery**—maintaining and improving customer-appropriate service delivery by formalising project and change management processes, creating an enterprise architecture and improving capacity to target entitlements and options in line with the Australians Working Together priorities.
- 5 **Efficiency and effectiveness**—making operations faster, cheaper, and smarter by establishing new partnerships, knowledge management, and improved links to client agencies.
- 6 **Focus**—providing direct links to federal, state, and community-based support organisations by establishing Centrelink as a pivotal civic entrepreneur<sup>1</sup> through enhanced community relationships and eBusiness strategies.
- 7 **Governance**—increasing organisational effectiveness and impact by strengthening stakeholder relationship management and clarifying internal accountabilities and responsibilities.

- 8 **Helping and Supporting Employees and Contracted Agents to Achieve Business Continuity and Success**—enabling people to achieve their maximum contribution to a high performing customer service culture. Centrelink people, including contracted Agents, are the organisation's most important asset and are fundamental to Centrelink's business success.

Centrelink is structured around the customer's needs, and the service is therefore divided into easily recognised 'Life Events,' reflecting the common requirements of citizens at different stages of their lives. The underlying principle is that customers will not be expected to know or name the various products or services to which they may be entitled when they initially (or subsequently) access Centrelink. Instead, all they will have to do is truthfully advise Centrelink of their personal circumstances. The responsibility is then on Centrelink to match the circumstances of the customer with the products and services that have been legislated and made available by client departments.

Centrelink currently provides a range of electronic services to customers, which include:

- A Web site that provides general information, access to some Centrelink publications, and provision to initiate further contact
- Electronic Benefit Transfer, where customers requiring an immediate payment can be provided with funds electronically transferred and accessed by a magnetic stripe card through an ATM network
- Trials involving interactive voice response technology for the provision of some customer information and for basic payment enquiries are currently underway at one of Centrelink's call centres

Centrelink is committed to providing customers with a choice of delivery channels online, in person, on paper, and on the phone, and is carrying out some important technology pilot projects. These trials are aimed at addressing the needs of customers who want more convenient and accessible services.

Centrelink participated in Telstra's pilots of its Multimedia Payphone. The Multimedia Payphone combines payphone, smart card, multimedia, and Internet technology, providing the potential for delivery of a wide range of services and information. Currently, users can use the telephone's touch-screen capability to access entertainment, travel and local information, and the Australian Job Search Facility as well as access Centrelink information about payment rates and eligibility and specialist services. Centrelink has since introduced a new service that will allow customers to view details about personal Centrelink payment information. A customer feedback facility is also available.

The Web Post Office (WebPO) project offers an alternative way for Centrelink to deliver letters to its customers, using the Internet as the delivery mechanism. This service provides customers with the following benefits:

- All letters are sent to them within one day of being generated
- More access points (right across Australia) to obtain and read their letters
- Improved privacy—only authorised persons can open their private mail
- Less chance of letters being lost due to incorrect addresses

Feedback from customers has been very positive. In many cases there is a customer expectation that they should always be able to do their business with Centrelink via the new electronic service delivery channels. An indication of this has been the large volume of emails containing personal information received from customers, even though this was discouraged. In response to this, a secure Internet messaging system was defined and it is currently in the final stages of development and testing.

Table 1 shows statistical information obtained from “Centrelink Information,” Centrelink, in July 2001.

<b>Centrelink Statistics</b>	
Customers	5.6 million
Staff	22,300
Call centres	27
Field officer reviews	98,700 each year
New claims lodged	3.5 million each year
Decisions	700,000 weekly
Online transactions	Around 2.5 billion each year
Online transactions	Around 2.5 billion each year
Payments to overseas customers	AUS\$320 million each year
Individual entitlements paid	9.1 million each year
Customer service centres	310
Letters to customers	More than 100 million each year
Booked office appointments	More than 650,000 each month
Telephone calls received	More than 24 million each year
Web site	9 million page views each year
Number of payments	300 million each year
Payments from overseas into Australia	AUS\$1.2 billion each year

**Table 1**  
Centrelink Statistics



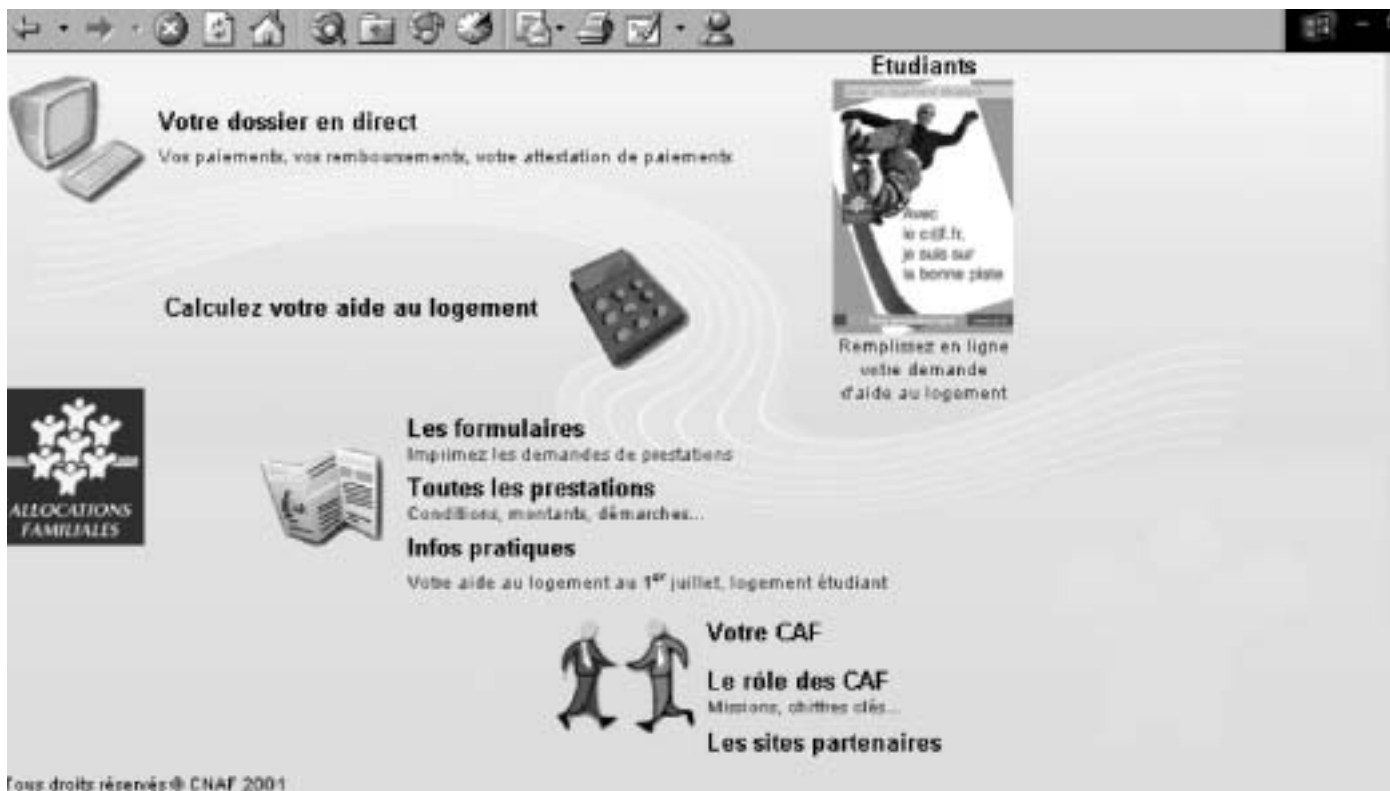


Figure 3

**FRANCE – CAF**

[www.caf.fr](http://www.caf.fr)

The Caisse d'Allocation Familiale (CAF) (fig 3), the French Family Allowance Office, has about 20,000 employees. Family allowances in France have become steadily more complex over the past 50 years. Depending on income and social circumstances, different rates of child benefit, childcare allowances, and student accommodation grants can be claimed by around 10 million French families.

The CAF already had many points of contact with the general public: the French MiniTel information system, telephone call centers, and 125 CAF branches throughout the country. Then, using e-commerce technology, CAF launched its own Web site.

Students now can download and complete housing benefit application forms from the CAF Web site. Because the forms require a signature and supporting documents, the application cannot be completed online but the sheer convenience of not having to physically collect the form or wait for it to be posted means the Web site is becoming ever more popular as a means of dealing with the CAF.

The site also acts as a gateway to tailored local information from the CAF's branch offices. By keying in their postcode,

users are directed to the Web site of the branch responsible for their affairs.

A new service enables families to find out the total amount of any benefits they are due to receive by giving them direct password-protected access to their own file. They will also be able to calculate the impact on their income of applying for different types of benefits by means of an online simulation tool. Previously, this level of service could only be provided during personal visits to a CAF branch office, where staff accessed the relevant information from the organisation's central database. By opening the database up to the general public, CAF staff will be freed from these relatively routine tasks to devote more time to other, more specialised aspects of customer service.

The technology employed had to absolutely guarantee around-the-clock availability—an essential feature because of the CAF's branch offices in France's overseas departments in the French West Indies, Guayana, and Reunion Island, which span multiple time zones. By clustering servers, the CAF gained the reliability they needed.

(Information from [www.ibm.com/solutions/government/socialsegment](http://www.ibm.com/solutions/government/socialsegment).)



**Figure 4.**  
The Italian Social Security Agency Homepage

#### ITALY-INPS and INAIL

[www.inps.it](http://www.inps.it)

To successfully manage the increasing pensions burden, any government must have an accurate picture of all the factors influencing current and future demand. For that to happen, organisations operating public pension systems have to be able to supply a wealth of analytical information with a speed and flexibility to match the often tight deadlines set by the law-makers.

Nowhere is this more true than in Italy where the government works closely with its main social security organisation, INPS (Istituto Nazionale della Previdenza Sociale) to develop its pensions policy. As one of the largest social security agencies in Europe, INPS has a vast database of information about its client group—the 17 million Italian citizens working in the private sector and 15 million pensioners.

Until recently, however, INPS has had to rely on a traditional system to extract

the analysis required to inform parliamentary decisions. Each time a new report was required, IT professionals at INPS had to write special Common Business Oriented Language (COBOL)-based programs using Query Management System (QMS) and Structured Query Language (SQL) to query the data on its DB2 database. The result was slow and lacked the flexibility required for rapid decision-making.

With its reputation as a technology leader among Italian governmental agencies at stake, INPS decided early in 2000 to take the first steps toward a complete business intelligence environment.

The first tangible benefits of the new solution are coming from the phased introduction of five data marts, which enable new analytical insights into information stored on the agency's server.

The pensions data mart took priority and was followed by data marts for company information, facts, and figures relating to the working population and other mandatory social security payments, including unemployment benefit.

“We needed to build a new environment to enable us to extract from our data the information needed by government on a wide range of issues relating to pensions and other benefits. As a high-profile organisation with one of the most comprehensive databases in this field, we had to be able respond much faster and with total accuracy to such requests,” said Dionigi Spadaccia, INPS deputy Chief Information Officer with responsibility for Business Intelligence projects. “I am confident we will be able to produce statistical reports of the highest quality in response to the government’s requirements.”

Initially, the new solution will improve the flow of information from INPS to Italy’s national statistics organisation, ISTAT, which publishes periodical reports on all aspects of Italian social affairs. Both the quality and variety of the reports produced will be enhanced.

As a result of the new data mart, INPS will also be able to publish statistics on an intranet, opening up access to approved external organisations such as category associations and trade unions that have a need for up-to-date information on pension provision.

With the prospect of much higher levels of insight into what is happening within the pensions sector, the organisation is looking forward to developing new services, for instance, in the area of optional voluntary pensions. New solutions may also be found to old problems such as persistent ‘late payers’ who can be identified and targeted more readily via the new system.

At the same time, publishing figures on the Web creates a new and dynamic perspective which will enable INPS to meet demand for modern forms of access to information and also lays the foundation for developing new opportunities within the digital environment.

“We are at the start of a relatively long journey toward a total business intelligence environment, but as we make the first step in our transformation we can already see very clearly the benefits this is going to deliver through clearer, more accurate interpretation of the information we have at our disposal,” said Spadaccia.



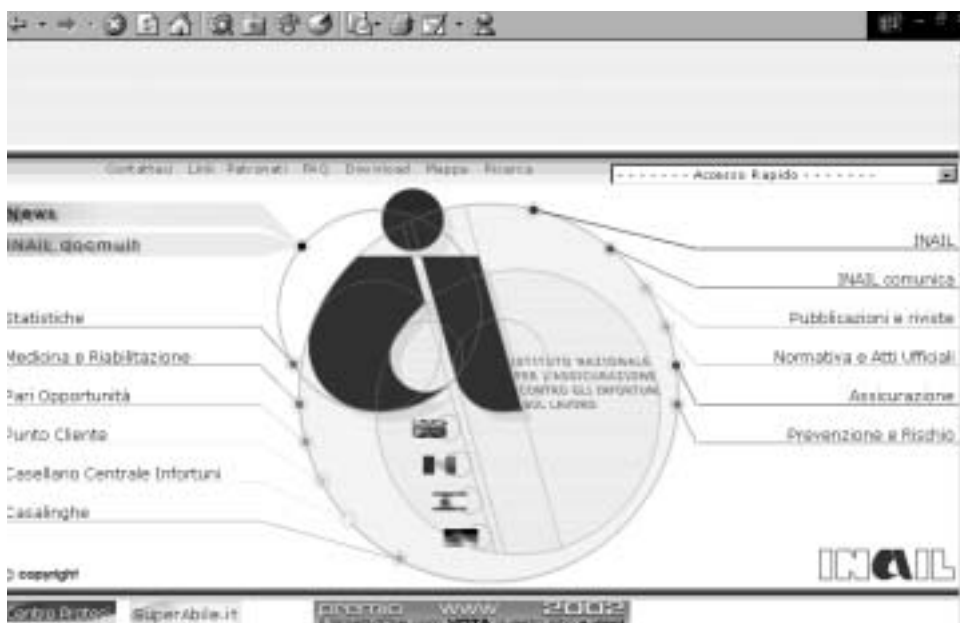


Figure 5

**[www.inail.it](http://www.inail.it) – Italy’s labour accident insurance agency**

[www.inail.it](http://www.inail.it)

Meanwhile, changing work patterns in Italy and concerted efforts to crack down on social security fraud have placed a range of new demands on the country’s labour accident insurance agency, INAIL (Istituto Nazionale per l’Assicurazione contro gli Infortuni sul Lavoro).

Faster response times and easier access for both employers and workers topped the list of new requirements, which sent INAIL in search of an e-business solution enabling them to offer online registration and facilities for tracking contribution records via the Web.


The trigger was a major change in Italian employment legislation two years ago which opened the door to temporary workforce agencies for the first time. Until then, the practice of providing temporary workers for hire—so popular in other European countries—was outlawed in Italy for historical reasons. High unemployment rates, particularly

among young people, prompted a change in government thinking. As long as anti-fraud measures could be built in to the system, the government took the view that temporary employment was a good way of opening up career opportunities.

Under Italian law every person in employment of any sort, even domestic employment in the home, has to register with INAIL and make a payment that provides them with insurance cover in the event of an accident while they are working.

The challenge for INAIL was to speed up the process for registering new employees, which had traditionally taken up to three months. With some temporary employment assignments lasting just weeks or a couple of months, it was obvious that a different approach was necessary.

INAIL opted for an online solution that enables temporary employment agencies to register new employees as soon as they start work, via the INAIL Web site. They submit an online form stating the type of work undertaken, the duration of the assignment, the salary, and the insurance contribution to be paid. In order to access the online services, all agencies providing temporary staff must have a ‘certification document’ that ensures documents are encrypted and secured with an ‘electronic signature.’ They obtain the certification document through the INAIL Web site (INAIL is an authorised ‘certification authority’) after being registered in any INAIL branch.



When users first connect to the service, all the local tools (Java applets) are automatically downloaded onto their client system, usually a PC in a Windows environment. Application maintenance and updates are also provided automatically through the Internet. INAIL staff can then check at a glance that the correct contribution has been calculated and enter the employee's details into their systems, so that contribution payments can be monitored.

A further change was introduced in Italian employment law in June 2000 to strengthen anti-fraud measures. Traditionally, Italian employers were only required to register their employees twice a year. As a result, some employers conveniently 'forgot' employees who worked for them for a short period only. The state missed out on valuable revenue and employees faced uncertainty about whether they had the correct insurance cover.

Under the new legislation, all employers—even people simply employing a house-keeper or nanny in their home—are required to provide INAIL with basic facts about new employees, including name and a tax code issued by the Ministry of Finance, within 48 hours.

Once again a prompt reaction was needed. The solution had to be highly flexible, which pointed to a fast registration service with multiple access points, including INAIL branch offices, free telephone, fax, email, and online registration.

As well as meeting the tough new legislative requirements set by the Italian government for cutting fraud, the new system has introduced considerable benefits for the country's working population. Employees can now access an up-to-date statement of their insurance payments online via the INAIL Web site and gain reassurance about their level of accident cover. For the Italian government, the new system has an additional important benefit: By registering workers more promptly, the quality of information about the nation's employment status has improved enormously.

(Information from <http://www.ibm.com/solutions/government/socialsegment>)



**Figure 6**  
United Kingdom–UK Online and Knowledge Network

[www.ukonline.gov.uk](http://www.ukonline.gov.uk)

Launched in September 2000, UK Online links more than 1000 government Web sites. The Bertelsmann Foundation, conducting a survey of government sites, assessed UK Online as the 'best in class' against stiff competition from across the globe. The UK Online site is based around 'life episodes' designed to help people through important stages in their lives. Existing life episodes on the site cover events such as getting married, moving home, having a baby, and bereavement. The ninth episode regards retirement.

UK Online's section for pensions and retirement is divided into four main stages: planning for retirement, approaching retirement, reaching statutory retirement age, and being retired. It provides information for a broad cross-section of society, extending from teenage school-leavers to pensioners themselves—up to 70 percent of the total population—and can be tailored for different users in England, Scotland, Wales, and Northern Ireland.

The government is keen to increase accessibility—a major element of many of the government electronic initiatives in this area—to this mass of information. Two recent national projects, both funded by the private sector and set up in partnership with Age Concern, are 'Open House' and the 'Computer Explorers,' launched in May 2002. Both schemes are providing Internet access and support to people over 50 years old across the country, using the UK Online site as a starting point.

Following a technology trial on the Sky platform in January 2002, the Office of the e-Envoy has been working to create a pilot UK Online service to initially go across the three main DiTV platforms—Sky, NTL, and Telewest. DiTV is seen to be a key delivery channel for older users, who may have limited mobility and a lack of Internet experience. The service includes a database of UK Online centres, a questionnaire, an e-mail feedback function, and content on current events and campaigns. In the future, UK Online aims to introduce electronic forms, personalisation, regionalisation, and transactions.

The key to coordinating the logistics behind UK Online was the Knowledge Network—a government-wide electronic communication tool helping government departments to share knowledge with each other. It is leading the world in enabling real-time knowledge sharing to take place between officials in all government departments.



Knowledge Network was launched in October 2001 and is currently available to around 55,000 users across the U.K. government intranet. The service offers access to government facts and figures, briefings on current issues, as well as sites for cross-government communities and projects.

Before the Knowledge Network, there was little capacity for officials in departments to work collaboratively—because the underlying infrastructure did not exist to enable them to do so. Officials were effectively trapped in technical and departmental silos. But now, with the combined effect of the Knowledge Network and UK Online, policy-makers and communicators in every department can now begin to truly coordinate their efforts.



**Figure 7**  
United States—SSA

[www.ssa.gov](http://www.ssa.gov)

The U.S. Social Security Administration (SSA) has one of the largest and most complex social security systems in the world.

Virtually all of SSA's administrative resources are committed to the management of three major programs: the Old Age and Survivors Insurance (OASI) program, the Disability Insurance program, and the Supplemental Security Income (SSI) program. To administer these programs, SSA issues Social Security numbers, maintains earnings records for wage earners and self-employed individuals, takes claims, makes eligibility decisions, maintains the beneficiary rolls, and disseminates information about the programs.

SSA has recently broadened its role in providing support services for disabled beneficiaries to return to work, achieve self-sufficiency through steady employment, and no longer be dependent on cash benefits.

In 1999, SSA paid out over \$391 billion to over 50 million beneficiaries.

SSA continuously adjusts processes and pursues new initiatives to improve service and program management and efficiency. But under current estimates, by 2010 the demographic shift created by the ageing of the Baby Boomers will push growth in disability beneficiaries to more than 46 percent over today's levels. Retirement beneficiaries will increase by over 15 percent and SSI recipients will increase by about 10 percent.

One of the first strategies used to reduce payments was to gradually increase the pensionable age of men and women. Citizens born after 1943 can expect to wait until they are 66 years old before they receive their full state pension, and those born after 1960 will have to wait until they are 67. This reflects the improved health status of each generation—but improved health does not necessarily mean a longer working life. It can be argued that working lives are getting shorter, not longer, with further education pushing the average starting point up toward 21 years of age. This means that today's new employees have less time to build a worthwhile pension fund—not to mention the repayments they face for career development loans and school fees. And an increased life expectancy doesn't always imply a longer working life. It may simply mean that the years of infirmity at the end of their lives are prolonged, increasing the pension's burden even more.

Demographic changes have created a critical need for program change to ensure the long-term funding of social security programs. Projections of the effects that the Baby Boom generation, subsequent 'Baby Bust' generations, and increased longevity will have on programme income and expenditure indicate that under current law, SSA would only be able to pay 72 percent of benefit amounts to its beneficiaries in the year 2037.

At the current time, SSA is looking into ways to simplify its benefits schemes to reduce administrative costs and make them more intelligible to customers. Naturally, modifying social security payments is a politically difficult (and slow) manoeuvre, even if it is ultimately for the customers' benefit.

So alongside its policy plans, SSA instituted a comprehensive 'service vision' which they intend to achieve by 2010. By then, SSA should function as a service delivery network with traditional local and centralised offices, 'virtual offices,' Internet access, and community contact points, all interconnected in a single agency. Work will be completely portable. Customer telephone calls and Internet (including video) contacts will be channelled to facilities anywhere in the SSA network that have the capacity to handle them.

Expanded, real-time electronic access to data held by others will also enable the agency to greatly reduce, and in many cases prevent, overpayments. Expert decision support systems and continual training opportunities will help employees ensure work is done correctly the first time.

In a setting where most customer business must be handled to completion at the first point of contact and where work flows automatically to available employees anywhere in the network, SSA employees will need very broad rather than narrow expertise. The electronic nature of the work allows employees equipped with portable connective devices to work from any location, including the traditional offices, at home, or at community locations, as dictated by customer service needs. Enhanced benefits, improved facilities, flexible work arrangements, and increased career and training experiences create an environment where employees will have unprecedented opportunities to contribute, learn, and grow—cutting staff turnover to a minimum and retaining their valuable expertise for as long as possible.

In the meantime, SSA has intermediate targets. By 2005, SSA intends to make 60 percent of its customer-initiated services available to customers either electronically via the Internet or through an automated telephone service, and provide the

customer interacting with SSA on the Internet with the option of communicating with an SSA employee while online. SSA should also have the capacity to take and process 99 percent of OASI and SSI claims in a paperless environment, and increase by 100 percent (from 1999 levels) the number of SSDI and SSI disability beneficiaries who achieve steady employment and no longer receive cash benefits. These are just a handful of the ambitious performance targets SSA has set itself.

Once these initiatives are in place, administrative costs will be minimised, unnecessary benefits expenditure will be reduced, and improved intelligence from data analysis will make it easier to justify policy modifications, making SSA more responsive to demographic and social change.

# Initiatives In Employment Services



**Figure 8**  
BELGIUM-VDAB

[www.vdab.be](http://www.vdab.be)

**The VDAB (Flemish Service for Employment and Vocational Training) makes sure that job seekers and employers find each other on the labour market—quickly, efficiently, and free of charge. The VDAB has a staff of 4453, of which 1034 are permanent staff and 3419 are contract staff (including 119 full-time staff on sabbaticals)—totaling the equivalent of 3839 full-time workers.**

Since its establishment in 1989, the VDAB has grown into a highly efficient public service. It offers an extensive and effective package of services: employment, temporary manpower, training and education, recruitment and selection, career counseling, and outplacement.

Matching supply and demand in the Flemish labour market is becoming more and more difficult. The number of job seekers is declining but the VDAB continues to receive more and more vacancies. For this reason, the VDAB is continually adapting its services to meet the needs of the labour market, using the very latest IT applications.

The VDAB Web site is at the heart of their operation. In three years, the Applicant Information and Selection System (KISS) has become one of the most important recruitment channels for businesses in Flanders. Last year, almost 200,000 applicants were selected online on the basis of their electronic CVs. By the end of December 2000, the KISS applicant system contained 54,349 active CVs from job seekers. Some 14,420 companies are connected to the KISS applicants' bank.

Via the vacancy bank (WIS), job seekers can choose from more than 24,000 jobs. With the launch of 'Werklinks,' the site has been expanded into a portal site. Werklinks brings together more than 1300 links to interesting Internet sites related to work and careers. The WIS vacancy bank is attracting traffic both online and via custom-designed kiosks. By the end of 2000, the VDAB had set up 237 terminals in Flanders and 207 in other locations. The number of vacancies consulted via the WIS terminals rose to 43,088,971. The number of vacancy sessions via the Internet came to 895,966, which resulted in 17,844,865 vacancy consultations. Job seekers can also access vacancies via their VDAB consultant, teletext or radio.

In addition, the VDAB conducts customised training courses for the commercial sector. Since the training services were initiated, 54,714 employees have taken 1,675,998 hours of training in the VDAB's own centres and those of third parties. Training courses were organised in cooperation with particular business sectors.

The VDAB's Web site is also the gateway to free training for individual job seekers. In 2000, 2005 students took 90,275 hours of training online. The through-flow statistics after the training are also interesting. Among the job seekers on training courses in the first half of 2000, six months later 71.7 percent had found work and 12.8 percent were following a further training course.

After training, the next step for many job seekers is to acquire workplace experience. The VDAB's T-Interim service is a commercial partnership, offering temporary manpower opportunities to thousands of workers. In 2000, T-Interim offered jobs to some 27,993 temporary workers. T-Interim also makes considerable efforts on behalf of risk groups: approximately 52 percent of the temporary workers for whom T-Interim found employment were poorly qualified. They now have the chance to become acquainted with the business world and gain work experience.

The VDAB also offers many services to employers and employees outside Flanders. Whether it is recruitment or training, the VDAB takes an active part in various European Commission projects and offers solutions to international personnel problems via the association of European Employment Services (EURES).

EURES is a unique European network of 500 employment consultants distributed across the entire European Economic Area (the European Union plus Switzerland, Liechtenstein, Norway, and Iceland). The consultants provide job seekers with current practical information about working and living abroad. The EURES network informs the client about job opportunities, CVs, living and working conditions, and labour market issues. In 2000, more than 47,000 foreign vacancies were accessed and printed out via VDAB's WIS database.



**Figure 9**  
CANADA-HRDC  
[www.drhc.gc.ca](http://www.drhc.gc.ca)

Canada was recently rated the world leader in e-government innovation by Accenture, in their 2002 report “eGovernment Leadership—Realizing the Vision.” But the Canadian government still has work ahead. In February 2002, the Honourable Jane Stewart, Minister of Human Resources Development Canada (HRDC), outlined the employment problems facing her country:

Demographics show us that, by the year 2020, Canada may have a shortage of nearly one million workers, as Baby Boomers retire. We also know that in 2004, 70 percent of all new jobs will require a university degree, a college diploma, or an apprenticeship certificate. Research also shows us that 50 percent of the workforce of 2015 is already in the labour market and that, just like the employees here today, those workers are going to require upgrading to remain competitive.

(Remarks on launch of “Knowledge Matters: Skills and Learning for Canadians” at Groupe I-COM, 15 February 2002)

Fortunately, Canada has one of the most highly educated labour forces in the world. Close to 40 percent of the adult population has completed a post-secondary education, well ahead of other advanced economies. Close to 285,000 diplomas, degrees, and certificates were granted in 1998 by 199 Canadian colleges and 75 universities, including around 4000 doctorates. This is a very strong and enviable base upon which to build a successful innovation strategy.

But there is still plenty of room for improvement. Even though Canadians overall have more formal education than ever before, nearly eight million Canadians—more than 40 percent of working age Canadians—lack the basic literacy skills required for successful participation in this rapidly changing economy. To ensure Canada's current and emerging workforce is more highly skilled and adaptable, HRDC has set itself some specific targets:

- Within five years, the number of adult learners should increase by one million men and women throughout all segments of society
- Within five years, businesses should increase by one third their annual investment in training per employee
- The number of adult Canadians with low literacy skills should be reduced by 25 percent over the next decade

The key to hitting these targets is the Internet. The Canadian government's portal site, [www.canada.gc.ca](http://www.canada.gc.ca), provides access to 450 federal Web sites and offers email responses within one business day. Job Bank ([www.jobbank.gc.ca](http://www.jobbank.gc.ca)) is the most popular part of the Canada site, receiving 48 percent of the site traffic with about 100,000 visits every day and more than 28 million user sessions a year. An electronic listing of work opportunities provided by employers across Canada, the Job Bank has received as many as 18,000 single page views by a Web visitor per minute during peak periods. On average there are 46,000 jobs posted at any time, 2000 new jobs posted every day, and approximately 47,000 online applications a day. While they are there, citizens can also apply for employment insurance over the Internet.



**Figure 10**  
Human Resources Development Canada

[www.jobbank.gc.ca](http://www.jobbank.gc.ca)

In order to improve accessibility to these online services, three government initiatives have been introducing the Web to new users. Since 1995, Industry Canada's Community Access Program has invested CA\$195 million to develop public Internet access sites in urban, rural, and remote communities. The Smart Communities Program has provided CA\$60 million over three years to help fund demonstration projects on community-led, information-based economic, social, and cultural development. And HRDC has invested CA\$32 million since 1998 in Community Learning Networks, which support local capacity building by using online technology for individual learning, community networking, and the creation of employment opportunities.



**Figure 11**  
United Kingdom–Worktrain

[www.worktrain.gov.uk](http://www.worktrain.gov.uk)

Designed to bring together information about jobs, learning opportunities, and careers, Worktrain provides access to over one million job and training opportunities. It is aimed at those looking for work or to improve their employment situation.

Worktrain, now being taken forward by the Department for Work and Pensions, was developed through a partnership between the Employment Service, the Department for Education and Skills (DfES), and the University for Industry. It is an excellent example of interdepartmental cooperation—even winning the award for 'Best Partnership Project' at the Government Computing Innovation Awards, 2002.

Worktrain is designed to be easy to use, even for those who are not familiar with the Internet. It is one of the few sites that are fully usable by visually impaired people.

At the core of the Worktrain site is Job Bank, a database of over 400,000 U.K. jobs and 15,000 European jobs. Users can access Job Bank via [www.worktrain.gov.uk](http://www.worktrain.gov.uk) or [www.employmentservice.gov.uk](http://www.employmentservice.gov.uk), or in their local Jobcentre via new touch-screen Jobpoint kiosks. Nine thousand Jobpoints are being installed in all Jobcentres and Jobcentre Plus offices.

Users can also link to advice on employment law. Tailored Interactive Guidance on Employment Rights (TIGER) is a user-friendly, interactive guide to U.K. employment law. It is a practical solution to the problem of extracting and presenting elements of guidance that relate to an employee's individual circumstances. Although aimed at the employee, TIGER can be used by anyone with an interest in U.K. employment law, including employers and professional advisers.

The Worktrain site now includes access to childcare information and is being enhanced through feedback from users to develop a more effective and user-friendly service. Public access is also being developed through U.K. Online centres and private sector facilities.

The U.K. white paper “Opportunity for All in a World of Change” stated the government’s ambition to make the United Kingdom the number one country for the supply of advanced IT, Electronics, and Communications (ITEC) skills. The white paper sought to increase the provision of learning in further and higher education related to ITEC, and to work with businesses to promote a more diverse workforce in ITEC employment.

It included a number of commitments to achieve these goals:

- New Technology Institutes to provide learning in IT and support the transfer of new technologies and business practices to companies
- £100 million investment in developing specialised curricula in areas such as electronics, IT, and design and technology, in further education colleges
- Support for up to 5000 unemployed people through the New Deal’s (the UK’s training and employment programme) ‘Ambition: IT’ scheme, taking them into technician-level jobs in IT
- Support for businesses that offer skilled IT employment to people facing disadvantage in the labour market, including ethnic minorities, people with disabilities, and older workers
- Work with businesses to reverse the serious under-representation of women in the IT industry

With reference to this last point, the National Training Organisations, supported by the Department for Trade and Industry (DTI) and the DfES, are undertaking a programme of work to improve people’s often negative perceptions of IT—particularly among women and young people.

The programme will address the provision of suitable role models, mentors, and careers advice, and will work with the media to develop more positive images of IT in magazines, TV, and film.

The DfES is supporting the pilot development of a computer club for girls that aims to develop their interest in IT by:

- Engaging them with more exciting, relevant Web-based activities and learning programmes
- Encouraging young women to consider Modern Apprenticeships in IT
- Producing material to provide comprehensive career information about the industry

The DTI is supporting the development of a Web site for women to provide career information about ITEC, including case studies and role models. This is all part of the government’s stated commitment (in the e-Envoy’s “Online Annual Report, 2001”) to “innovate, not just automate.”



**Figure 12**  
United States—Career OneStop

[www.careeronestop.org](http://www.careeronestop.org)

In line with the vision of the ‘America’s Labor Market Information’ system, the U.S. Department of Labor (DOL) sponsored the development of Career OneStop through grant-funded programmes to the states. This powerful suite of three national electronic tools—America’s Job Bank, America’s Career InfoNet, and America’s Service Locator—offers an online solution to the demands of today’s labour market from the perspective of the job seeker and the employer.

Career OneStop’s new site was launched in July 2002, and the three subsidiary sites are being revamped and reengineered to match. It’s still too early to measure the impact of the new service, but the redesigns are intended to reflect the needs of customers, simplifying navigation and making the most popular links more prominent.

Users can search for a new job, or find new employees, through America’s Job Bank. More than a million jobs are posted every day, plus hundreds of thousands of CVs.

America’s Career InfoNet delivers information on wage and employment trends, occupational requirements, state-by-state labour markets, and millions of employer contacts.

Information on nearby services for workers and employers can be found through America's Service Locator. This includes detailed information on One-Stop Career Center offices in each geographical area, with maps and directions.

Career OneStop, along with the National Toll-Free Helpline and the local One-Stop Career Centers in each state, combine to provide a vast range of workforce assistance and resources for American citizens.



**Figure 13**  
PRIVATE SECTOR–Cisco Systems

[www.cisco.com/partner/training/tac/index.htm](http://www.cisco.com/partner/training/tac/index.htm)

Technology companies are always developing new products, but it is rare for them to implement applications for those products internally. Cisco Systems is unusual in that it is a networking company that actively uses cutting-edge networking technology to train its own workforce. Its training system could act as a model for future public sector training schemes.

The Cisco Technical Assistance Centre (TAC) is a global education network. With 36,000 employees worldwide (plus partners) as its customers, the Cisco TAC is on a scale similar to many public sector e-learning initiatives. It aims to manage and enhance a global training Web site that offers interactive training content designed to help Cisco engineers and customers solve technical problems and learn how to deploy new technologies. The same infrastructure could be used to teach any subject: customer service, language skills, and interview techniques, for example.

As well as supplying documentation and online tools, the Cisco TAC site allows engineers and customers to register and attend live or on-demand Web seminars. Using a software product called Broadshow Streampoint Producer, seminars are produced at the session leader's desktop, allowing synchronised presentation and audio to be streamed around the world. The audio stream can be relayed through the client's computer or via a designated phone line. Up to 500 people can attend the seminar at a time, and there is a live chat function that enables users to interact with the seminar leader.

In the 'Virtual Chalk Talks', users can receive presentations, video, and audio streams live, and the lecturer is able to prompt pop-up windows to appear on every attendee's desktop, quizzing users as the session progresses. This is useful for gauging the level of attention or for profiling delegates.

The live Web seminars and Chalk Talks are extremely well received and are often oversubscribed. If public sector employment services could harness similar technology, distance learning could become a powerful and popular tool.

# New Opportunities

**Changes in technology and consumer behaviour have opened up a range of new opportunities for social security and employment agencies. These opportunities can be grouped into six areas: cost savings; communications; training; fraud prevention; coherence; and customer focus.**

## **Coherence**

As outlined above, there are many efficiency savings to be made by coordinating governmental operations, particularly at the back end. This white paper includes several examples of interdepartmental cooperation producing excellent results. But a by-product of this coordinated approach is the improved level of coherence—both in messaging and policy-making.

A common strategy in many countries is to create a one-stop government portal, where citizens can access every public service in seconds. This creates a sense (often an illusion) of a cohesive, coordinated system of government. Even though the portal may be little more than a loose collection of links, this sense of unified intelligence is powerful, and lends greater authority to the government's political messaging.

But even if the coherence of these portals is mainly cosmetic (NOTE: that is going to be a controversial statement for some, presumably – it happens to be true but it's not what the proponents, and our clients, are claiming), it is having an influential effect as agencies begin to share their information and coordinate their offerings. The United Kingdom's Knowledge Network (see below) is a repository of information from agencies across the government, and policy-makers are actively encouraged to use information from other departments to inform their own thinking. The recent Pickering Report into pensions provision (United Kingdom, July 2002) was created for the Department for Work and Pensions, but its efforts were carefully coordinated with other policy review groups working at the Inland Revenue (taxation) and the Financial Standards Authority. The hope is that the three parallel investigations will come up with recommendations that complement rather than conflict.

The sharing of information, which is at the heart of information technology, is happening earlier and earlier in governmental process, creating a more coherent effort and purpose.

## **Cost Savings**

The private sector has led the way in using technology to improve the efficiency and productivity of its processes. Following their example, public sector organisations are now using the principles of business intelligence to streamline their own traditional systems.

Improved electronic data access, information systems, and communication tools help minimise mistakes and maximise productivity. A white paper produced by Digita, one of the United Kingdom's leading financial software development companies, tried to quantify the scale of the savings that could be made using automated systems. The example it used was that of a bank:

Think of it this way: a typical bank transaction costs 84p (approximately US\$1.20) when handled by a branch member of staff, 36p over the telephone, or 16p at a cashpoint (ATM). But the same transaction processed over the Internet costs a fraction of a penny. Or to put it another way, that means a productivity improvement in excess of 97 percent, which is revolutionary.

<http://www.digita.com/digita/home/whitepapers/whitepaper200102/default.asp>

If social security and employment agencies could shift more of their transactions away from their physical offices and toward their online delivery channels, the volume of work they could handle would be enormously increased.

At the same time, it is important that agencies offer a range of access options to their customers, so as not to exclude those users without Web access or who prefer not to use electronic channels. While the potential cost savings are tempting, a balance must be struck between efficiency and accessibility.

### **Communications**

Accessibility is a two-way street, of course. Not only must the agencies be open to enquiries from the public, but they must also be able to disseminate information as quickly and economically as possible. Social security and employment agencies are looking at ways to expand their physical network, locating service counters in a range of alternative venues such as community centres and supermarkets. This will improve accessibility for people in remote areas or who cannot reach the traditional offices during business hours.

There are also plans to provide greater access to services through touch-screen kiosks at convenient public locations, and by using the Internet (from home, in libraries, Internet cafes, or community centres).

One initiative in Australia, detailed below, involves a trial using multimedia payphones, enabling users to access personal information and services from locations all over the country. In addition, the 'Web Post Office' project will deliver thousands of letters to customers with a minimum of paperwork and handling errors, while also offering increased privacy.

Established telephone information systems are being revolutionised with the introduction of new technologies. They are becoming more automated, allowing users to self-select the services they require, therefore speeding up the processing of their transactions. The quality of the service is also improving, with multilingual capabilities being phased in, and Interactive Voice Response technology reducing the need to key in information.

### **Training**

Web-based services are proving to be an excellent channel for training, both for employees internally and for the wider public. Many countries have online databases of training opportunities, allowing users to search for suitable schemes in their geographical area. But increasingly, the training itself is being delivered online, with Web seminars and distance learning materials being distributed electronically.

Electronic training schemes are much more flexible, both for trainees and educators. The size of each 'class' has virtually no upper limit. There are no issues of geography or time zones. Users can access most of the materials at any time, completing online exercises when it is convenient for them. Indeed, interactive learning has proven to be more effective than absorbing information passively from books or lectures. Lessons can be modified and modernised with little effort, and the same infrastructure can be re-used to communicate lessons in different languages or on analogous topics.

Broadband networks are enabling the use of real-time video which, coupled with live chat, gives the sense of a more conventional classroom atmosphere, because students are able to interact with the tutor directly. The technology behind such systems is being pioneered by Cisco, and their highly successful Technical Assistance Center (described in more detail below) is a good model for any distance learning project.

### **Fraud Prevention**

With fewer and fewer transactions occurring face-to-face, opportunities for digital fraud have increased. However, improved communications between government agencies can also boost detection figures, as it becomes easier to spot anomalies in customer behaviour. Names, addresses, income, and healthcare records can all be cross-checked to ensure that benefits claimants are genuinely eligible, for example. Coordinating the data silos involved is an expensive and time-consuming task, but the cost is offset by subsequent efficiency savings and reductions in wrongful payments.

Different security approaches provide different levels of defence, and their value is dependent on the nature and sensitivity of the information being protected. Examples of anti-fraud measures are digitised signatures, Public Key Infrastructure (PKI), and use of a personal identification number (PIN) or password.

A further preventative measure is the issuing of personal ID cards or 'smart cards,' which would significantly reduce benefit fraud. But the introduction of smart cards is strongly opposed by civil liberties groups. Apart from the political issues, smart cards also raise organisational problems. There is the interdepartmental struggle over which 'number' is given prominence on the card: national insurance, social security, driver's license, medical registration, or tax number? In a unified smart card scheme, every other department would have to reclassify their records to match the system used by the 'dominant' agency. And what information would the card carry: driving records, medical records, DNA profiles, criminal records, benefits status, employment status, passport information, ethnic origin? Each type of information raises civil rights issues—but having too little information on the cards will render them useless.

Smart cards will only take hold if there is sufficient incentive for citizens to use them. Italy launched its smart card in March 2001, and adoption has been disappointingly low due to a lack of applications. The primary use of the card is to sign legal documents electronically. Finland is also experiencing low usage of its smart card program, with only 0.2 percent of the Finnish population using the card due to lack of applications and incentives.

Malaysia has begun issuing MyKad, a credit card-sized device with an embedded microchip designed to be an access key to a range of government and private sector services. In its first phase of implementation the card will incorporate four applications: an identity card (replacing the paper card carried by all Malaysians over the age of 12), driver's license, passport information, and electronic cash. Further applications will be added over time. By 2007, the Malaysian government estimates that more than 20 million Malaysians will carry the card.

The logistical problems of implementing digital security may sound formidable, but the cost of fraud should not be underestimated. A recent white paper published by IBM stated that "between five and ten percent of program expenditures are routinely lost to fraud and abuse in social services and social security programs." ("Applying Business Intelligence to Social Services and Social Security" IBM, 2001)

And when a system is found to be vulnerable, agencies can be sure that the opportunities for fraud will be fully exploited. The U.K. government's Individual Learning Account (ILA) scheme, launched in September 2000, is an example. The principle behind the scheme was laudable: every adult in the United Kingdom was offered an annual cash allowance toward private vocational training, which could be claimed by the training provider when an individual signed up for a course. Unfortunately, the government did not follow its own rules on security risk analysis, and the system made inadequate provision for identity checks. As a result, unscrupulous training organisations were able to remove money from students' ILA accounts without their consent. Five thousand students were defrauded in this way, and training was not offered to another 1000 students after they had provided payment from their ILAs. More than 40 people were arrested and charges were filed against 13. The scheme was finally shut down by ministers at the end of 2001, having run £93 million (approximately US\$145 million) over budget.

That was the price of fraud in one small scheme over 15 months. Add to that the political damage caused by the scandal, and the value of anti-fraud technology becomes clear.

### **Customer Focus**

Perhaps because many of the technologies were developed in the private sector, e-government engineers often refer to a country's residents not as 'citizens' or 'voters' but as 'customers.' This reflects the fact that people using electronic systems for social security or employment services expect to be treated as they would be when purchasing any product online—as individuals who should be served with care and respect during their transactions. Of course, in the interaction between public and private sector, the situation can be more complicated. The Australian experience with Centrelink, described earlier in this paper, shows the challenge that resides in achieving a balance between 'customers' (that is, end users or receivers of programmes/benefits) and 'clients' (that is, the government agencies on whose behalf the programmes/benefits are being administered).

However, the balance of power increasingly lies with the user. On the Web, even in the public sector, the customer is in charge.

# Conclusion

**Indeed the online world is the ideal forum for collaboration between the private and public sectors. Microsoft CEO Steve Ballmer recently outlined the ways in which public and private services may complement each other, to the benefit of the user:**

Governments have the opportunity to make life easier for their constituents by recognizing how the role of 'consumer' and 'citizen' are complementary.

Today we think of our dealings with governments as separate from our daily lives as consumers, but, in fact, they are often related. We need to go to city hall to get a permit for remodeling our house and then to the lumberyard for the materials to do the job. We go to one place to get fishing gear and another to get a fishing license. An opportunity exists for governments to collaborate with private enterprises to provide a more convenient, integrated service to their common customers.

(“The Promise of eGovernment,” Outlook magazine, Accenture, Spring 2002.)

If governments are beginning to sound more like businesses, it's because they are adopting more business practices. A term familiar in business circles, Customer Relationship Management (CRM) is attracting increasing interest from government. Agencies realise that CRM is a tool with significant potential to improve their relationships with their customers through reorganising service delivery around customer intentions. CRM allows agencies to create an integrated view of the customer and to use this information to coordinate services across multiple channels.

CRM in government is a relatively new concept and therefore still largely unexplored. The primary motivations for implementing CRM in the private sector—customer retention and increased profit per customer—are absent in the public sector. However, the principles of CRM hold intriguing possibilities for government, given that governments are the largest service providers in the world, provide a wide variety of services, and have much to gain from a better understanding of their customers. As government looks to improve service delivery, while at the same time dealing with the pressure to do more with less, CRM has the potential to alleviate some of the most pressing service challenges governments now face. It can assist in, among other benefits, streamlining government processes; improving inter-agency data sharing; and providing self-service options to the public.

Canada has made significant progress in this area, largely due to its focus on the citizen in its e-government programs. The President of the Treasury Board, the Honorable Lucienne Robillard, who serves as the champion for the Government Online program, explained the primacy of the citizen as follows:

“Too often in the past, government services were designed from the inside out; they reflected the structures of government organisations rather than the needs and priorities of citizens. This is changing ...we cannot stop until all Canadians can have seamless access to all government services quickly, simply and with a minimum of fuss.”

(Quoted in “eGovernment Leadership—Realizing the Vision,” Accenture, April 2002.)

Series Editor Simon Willis

Internet Business Solutions Group  
EMEA

Cisco Systems

Enquiries swillis@cisco.com



**Corporate Headquarters**  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
www.cisco.com  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 526-4100

**European Headquarters**  
Cisco Systems International BV  
Haarlerbergpark  
Haarlerbergweg 13-19  
1101 CH Amsterdam  
The Netherlands  
www-europe.cisco.com  
Tel: 31 0 20 357 1000  
Fax: 31 0 20 357 1100

**Americas Headquarters**  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
www.cisco.com  
Tel: 408 526-7660  
Fax: 408 527-0883

**Asia Pacific Headquarters**  
Cisco Systems, Inc.  
Capital Tower  
168 Robinson Road  
#22-01 to #29-01  
Singapore 068912  
www.cisco.com  
Tel: +65 317 7777  
Fax: +65 317 7799

Cisco Systems has more than 200 offices in the following countries and regions. Addresses, phone numbers, and fax numbers are listed on the **Cisco.com Web site at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).**

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica • Croatia • Czech Republic  
Denmark • Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR • Hungary • India • Indonesia • Ireland • Israel • Italy  
Japan • Korea • Luxembourg • Malaysia • Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland • Portugal  
Puerto Rico • Romania • Russia • Saudi Arabia • Scotland • Singapore • Slovakia • Slovenia • South Africa • Spain • Sweden  
Switzerland • Taiwan • Thailand • Turkey • Ukraine • United Kingdom • United States • Venezuela • Vietnam • Zimbabwe

Copyright © 2002, Cisco Systems, Inc. All rights reserved. CCIP, the Cisco Arrow logo, the Cisco *Powered* Network mark, the Cisco Systems Verified logo, Cisco Unity, Follow Me Browsing, FormShare, iQ Breakthrough, iQ Expertise, iQ FastTrack, the iQ logo, iQ Net Readiness Scorecard, Networking Academy, ScriptShare, SMARTnet, TransPath, and Voice LAN are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn, Discover All That's Possible, The Fastest Way to Increase Your Internet Quotient, and iQuick Study are service marks of Cisco Systems, Inc.; and Aironet, ASIST, BPX, Catalyst, CCDA, CCDP, CCIE, CCNA, CCNP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, the Cisco IOS logo, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Empowering the Internet Generation, Enterprise/Solver, EtherChannel, EtherSwitch, Fast Step, GigaStack, Internet Quotient, IOS, IP/TV, LightStream, MGX, MICA, the Networkers logo, Network Registrar, *Packet*, PIX, Post-Routing, Pre-Routing, RateMUX, Registrar, SlideCast, StrataView Plus, Stratm, SwitchProbe, TeleRouter, and VCO are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and certain other countries.

All other trademarks mentioned in this document or Web site are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0208R)