

From possibility to actuality

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and social security
organizations are
turning to SOA

Social Services and
Social Security



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Why social services and social security organizations are turning to SOA

By Edward Blatt and Jay DiMare

Public social services and social security organizations face a host of challenges – compelling them to move faster and more flexibly, target services more effectively, and make sure that resources are concentrated on increasing program efficiency and effecting positive client outcomes. The very nature of the “organization” is changing as new partners – non-government organizations, community-based programs, and other domestic and international government entities – become part of the service mix. Add to that the need to adapt quickly to legislative changes and increasing demands for services and benefits – all in the face of shrinking resources – and it’s easy to see why administrators and executives are looking for new and better ways of doing business. But amid the numerous social, political and economic constraints and issues, the IT systems that help enable these programs and services add a challenge of their own – increasing complexity and cost associated with change. A Service Oriented Architecture (SOA) can help organizations become more efficient, flexible and effective by optimizing their existing IT investments. With SOA, application components can be combined to create new applications, and seamlessly integrated with applications from partners, suppliers and stakeholders.

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Why social services and social security organizations are turning to SOA

Introduction

In the world of social services and social security, a service is an activity with a specified outcome intended to benefit an individual or group. Job training services, for example, are aimed at helping people find gainful employment. Nutrition services can help ensure that children receive proper diets. Financial advice services can aid in increasing retirement savings. Substance abuse services can help address drug and alcohol problems. Frequently, a group of services might be offered. For instance, parenting education, respite services and substance abuse services might be provided to a family in order to help prevent child abuse.

Service-oriented architecture (SOA) is an approach or a framework for software design and development. It takes everyday business applications and breaks them down into individual business functions, called services. SOA allows you to build, deploy and integrate these services, independent of the applications and computing platforms on which they run. Just as a social services has a specified outcome, an SOA service also has a specified outcome. For example, an SOA service might be used to check the prior history of a client. Another service would be used to open a new case, while a third would determine eligibility. These services can be grouped together into new, higher-level services to support tasks like registering a client with a disability for an income maintenance benefit and then paying that benefit.

In the field of social services and social security, services can be incorporated into different service plans. For example, the same substance abuse service that is grouped with other services to help prevent child abuse may be re-used with a different configuration of services to help a person with mental illness live more independently. There is no need to create two separate substance abuse services. Moreover, the service may be used simultaneously for multiple purposes. There is no reason why a person with mental health issues and an abusive parent can't participate in the same substance abuse service.

There are, of course, legal, funding and, in some cases, technology-related constraints that may make it difficult to share services – whether social services or SOA services. Benefits and programs are typically funded for specific purposes. Similarly, IT systems are funded without cross-program considerations. Single-purpose technology solutions often do one thing really well, but lack the integration options that would allow even the simplest connections between programs.

Service-oriented architecture is designed to offer the integration options necessary to help social services and social security organizations respond to many of the challenges and pressures they are experiencing today. For years, these organizations have expressed the need to collaborate closely with other entities, exchange data and integrate business processes. Many have tried with varying degrees of success to build these capabilities within their existing IT application platforms.

By breaking down communication barriers among computing platforms, SOA implementations can help enhance capabilities, reduce risk and trim costs.

In addition, software designers have tried to provide modularity and reuse in order to help meet the needs of social organizations. However, these past integration approaches were usually customized, point-to-point solutions that did not lend themselves well to change and were too costly to maintain and scale. SOA is designed to help eliminate those issues, with two considerable differences from past technologies.

First, SOA implementations rely on a set of open technology standards that allow software applications to use services that run on any computer, in any location. Second, the design approach proposed by SOA promotes the concept of systems integration through services, also called service orientation. This powerful design approach can significantly alter the way organizations think about systems integration. This change in thinking applies both internally, within an organization's own IT department, and externally, with partners and other collaborators. For governments, these two forces, open technology standards and service orientation, lay the foundation for stronger collaboration and drastic change in the way organizations provide services.

What is SOA?

Service-oriented architecture (SOA) involves breaking an application down into common, repeatable “services” that can be used by other applications, both internal and external, in an organization— independent of the applications and computing platforms on which the business and its partners rely. Using this approach, enterprises can assemble and reassemble these open, standards-based services to extend and improve collaboration among existing applications, build new capabilities and drive innovation at every point in the value chain.

Can SOA really influence the structure of entire social systems? Can it really change the way that organizations provide benefits and services? And can it help ensure that clients get the benefits and services that they need, and to which they are entitled? The following scenarios demonstrate how SOA can help change the way in which social services and social security benefits and programs are delivered.

Improving access to retirement pension account information

The baby boom that started in the mid-1940s and continued into the early 1960s fueled an economic explosion worldwide, and created a society that was largely unrecognizable to previous generations. As the boomer generation begins to enter their retirement years, the world is once again undergoing dramatic change – a marked aging of the world's population. By 2050, the developed world population aged 60 years and older is expected to nearly double from 245 million in 2005 to 406 million in 2050. The under-60 population will decrease from 971 million in 2005 to 839 million in 2050.¹

An aging society means new and increasing demands on employers, government in general, and social programs in particular—leaving organizations with some troubling questions:

- Are there enough younger workers to fill the void left by retiring staff?
- Do the spending and programmatic priorities of social programs need to change in order to meet the needs of an aging society?
- Are social systems prepared for increasing utilization?

- Are there enough younger workers to financially support the social programs needed for the older generation?
- Are workers saving enough for their retirement?

The last three questions are actually key components of the same issue. With every passing year, there are fewer workers paying ever-higher benefits to support an ever-growing number of retirees.

As the ratio of over-65-year-olds to 20-65-year-olds increases, governments have four basic options:

- Increase the average age of retirement
- Increase the tax/contribution rates
- Allow pensioners to become poorer, relative to the rest of society
- Increase the rate of savings.

The first three options, while potentially necessary, carry serious social and political implications. But the fourth option—increasing the rate of savings for retirement—is clearly in the best interest of both the individual and society. So what’s the problem? In a word, information.

The challenge: Saving for retirement today

With the recent worldwide economic crisis and its devastating impact on various savings and pension vehicles, it is more important than ever to keep individuals well-informed and help them take more responsibility for their retirement. But one of the problems inherent to retirement planning today is that publicly administered programs don’t “speak” to private programs, and private retirement pension accounts don’t “speak” to each other. If an indi-

vidual has worked for multiple employers and has a retirement pension account with each, there is no easy way for that person to obtain a realistic view of their retirement savings in one place. A holistic view of their retirement accounts is impossible. Consequently, the person who is not saving an adequate amount for retirement may not realize it until it’s too late.

At best, workers can go online and view their public retirement pension account information. However, they must then look at each individual account attached to each of their employers—past and present—as well as any personal accounts they may have set up.

Planning for retirement is a more complex exercise than it needs to be. For example, employees might be able to use retirement planning tools like a retirement calculator when they check their employee pension account. They may even be able to enter estimates of other pension and savings accounts as they try to assess their retirement readiness. But if workers have a number of previous employers, a government pension account, and one or more retirement pension accounts with their current employer, they could be looking up information from four, five, six or more accounts—all with different terms and conditions—in order to begin to get an assessment of their pension status. Furthermore, the accuracy of this assessment is debatable.

And this is only the start of the challenge. Say an employee wants to manage his or her investments within some of these accounts. Now he or she could be trying to manage dozens of investments within the six or more accounts.

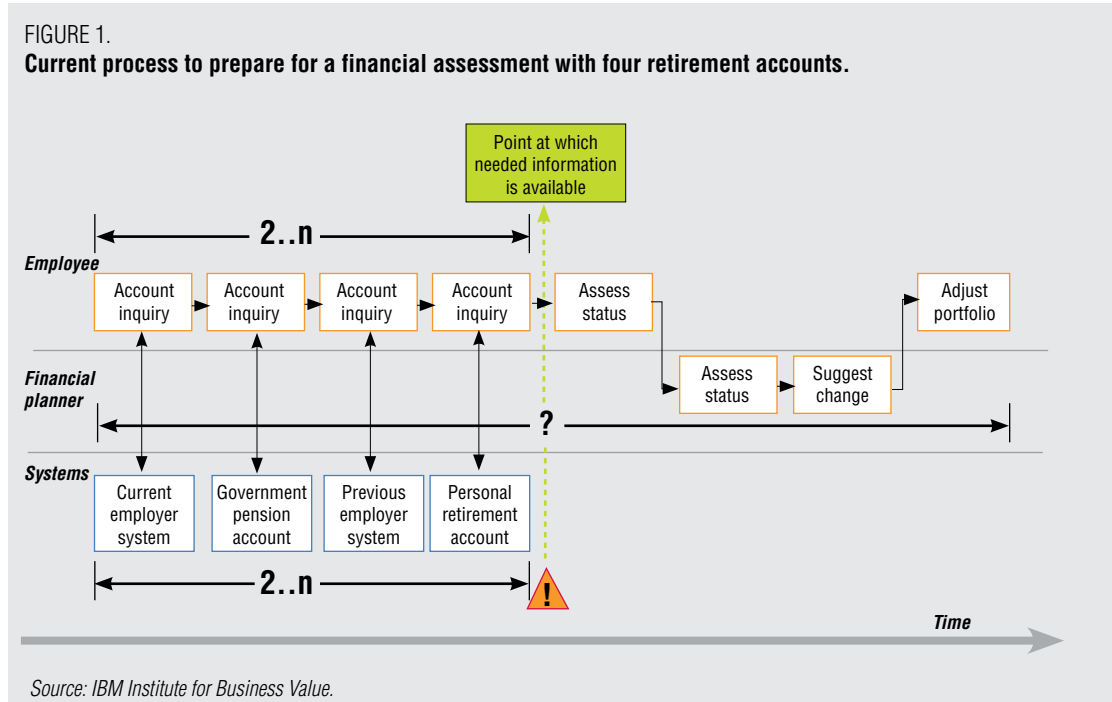
Combining information from diverse retirement accounts offers a “big picture” view, which can help facilitate long-term planning.

In the following example, an employee wants to use a financial planner to conduct an assessment of his retirement readiness. Figure 1 illustrates the steps required to prepare for and conduct this assessment. How many retirement accounts must the employee access in order to collect the necessary information? How long will it take the average citizen to do this? How will this impact the assessment if information is not readily available for one account? Is each system easy to use and similar enough in operation so that the employee can get consistent information across all accounts?

In Figure 1, the employee is managing four retirement accounts (it could be many more than four): a *government account* to which his employer makes a contribution, a *second*

pension account offered through his current employer, an *inactive account* from a previous employer, and a *personal tax exempt account* that the employee set up on his own through a bank. Because each of these accounts is maintained separately, the employee must make separate inquiries to each. And while he may use the services of a financial advisor to help plan for retirement, the financial advisor is not authorized to directly access any account information. The more accounts, the more steps, interactions and time are needed to assess the employee’s retirement status. In this example, it could take the individual between five and fifteen days to prepare for the assessment.

It’s a complex problem—but there is an easier way.



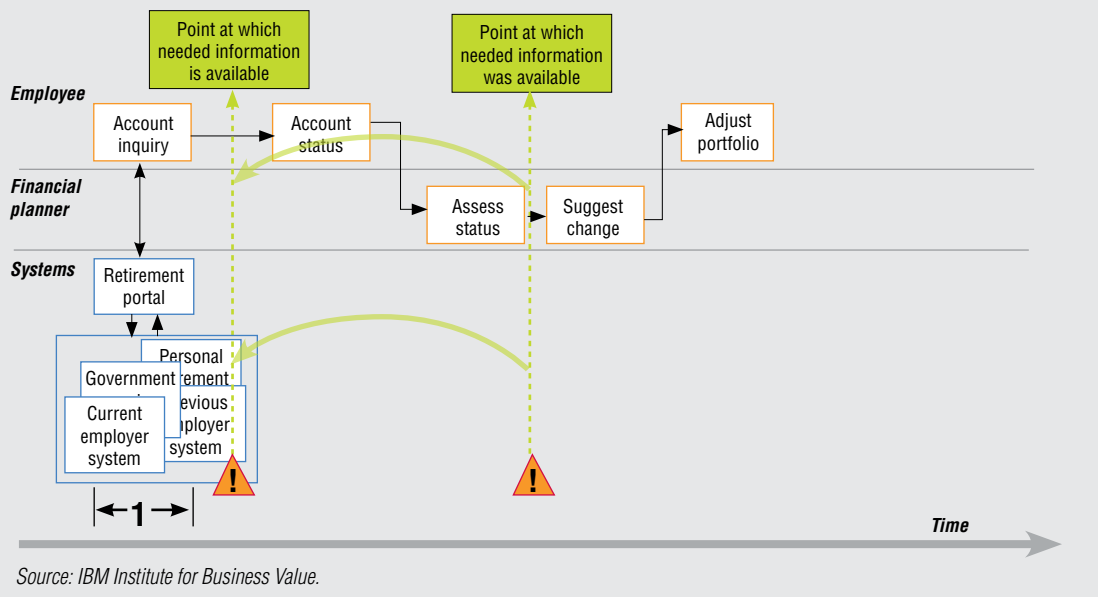
SOA leverages information that already exists in various systems – linking that information and presenting it in a consolidated manner.

An integrated approach to managing pension accounts

Governments can help individuals access all of their pension account information through a secure portal (illustrated in Figure 2). A variety of details – contribution history, investment strategy, investment results and calculations of likely final pension payments – may be viewed through a single integrated account management tool. Employees are able to view their current pension account based on their salary from their current employers, as well as other accounts that reflect salary and years of service with previous employers. They may also view any active retirement accounts they have voluntarily contributed to, as well as accounts they no longer contribute to because they have exceeded the statutory salary limit for continued contributions.

To help with retirement planning, employees are able to access pension forecasting tools through the integrated account management tool. Using these tools, they may test different contribution and retirement scenarios. They may also access tools that can help them determine if they may be eligible for any additional pension benefits (e.g., minimum income security, special health services, special disability services, etc.). Most of the information needed by these tools is already in the system, so employees only have to answer a few simple questions. And the results of the inquiry are based on a complete picture of their pension information – incorporating *all* retirement income sources at one time. This could cut the preparation time down to one day and allow employees to see future pension forecasts and the impact of different savings strategies.

FIGURE 2.
The revised retirement pension management process using an SOA-enabled portal and integrated account management system. Information can be made available where and when it's needed.



The ability to simplify the process this drastically is enabled through the single point of access provided by a portal. But given the legal, social and technology constraints, how can governments build such a portal that integrates public and private technology systems? SOA can help accomplish this without imposing a major burden upon participating employers and pension product providers.

In Figure 3, the new retirement portal is shown in the context of its integration with other government retirement pension systems, employer systems and other private sector systems. A common set of services allows any employer or retirement plan provider to make available the information needed by the portal – without actually providing a file or copy of the data. The data is maintained at the source, “authorized” and shared with the portal as required. When the employee asks to see all of his or her account information, the portal uses the SOA services to “get retirement account details” from each of the relevant accounts.

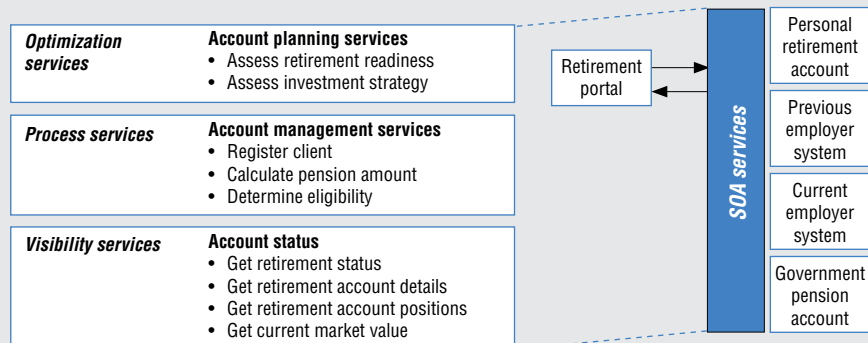
The value of SOA

An SOA-enabled architecture like the one illustrated in Figure 3 can help a government pension organization integrate with employers and private pension account providers. How? By offering business partners a consistent and durable interface, and giving employers and financial institutions a stable and controlled approach to integrating their systems. The end result can help employees prepare for retirement, since they have the ability to access all of their retirement information through a single portal.

This retirement solution can bring value in terms of:

- *Improved client satisfaction* – Clients have the ability to receive real-time, accurate information about their retirement pension accounts, without having to go to multiple sources.
- *Productivity improvements* – Employees are able to spend less time searching for information about their pension accounts and more time working.

FIGURE 3.
High-level architecture overview of solution.



Source: IBM Institute for Business Value.

By simplifying the task of managing information spread across diverse systems, SOA can help make social services and social security programs more effective.

- *Increased savings for retirement*—With more accurate and timelier information about their retirement pension accounts, people have the opportunity to better prepare for their retirement.
- *Decreased dependency on public benefits*—As individuals do a better job of preparing for their retirement, they may be less dependent on social assistance programs.

The SOA architecture and approach can help bring additional value in the following areas:

- *Quality improvement*—Data is entered once and shared systemically. Retirement planning is based on accurate information that is maintained in the appropriate source system. Actual data is taken in real time and presented in the portal.
- *Lower cost integration with external partners*—Employers need to be motivated to participate as well. The retirement burden for an employee is now shared. The SOA implementation is a non-intrusive, standards-based approach. A single interface for employers and other pension account providers is built once and separate from the portal. This allows the portal to evolve without impacting the participating employers and private pension account providers. It allows the same employers and private pension account providers to evolve without impacting any government systems.
- *Lower risk*—Data stays with the source, which can help lower risk for the government organization because it doesn't have to maintain or store pension data.

Together, the SOA interfaces and the retirement portal can help shorten the process for the employee from 5-15 days to one day. This is done without direct interaction with each retirement account holder—at lower cost for all who participate!

More and more, the public and private sectors are putting the burden of retirement savings on the employee. But if this strategy for fixing broken pensions systems is going to be effective, it is essential that employees have the tools to monitor, assess and manage their pension accounts. An SOA approach can become a vital part of this strategy. It can enable significant new functionality to be added to IT systems—supporting new outcomes without replacing existing systems. And because pre-built business applications are central to SOA, services and processes may be more quickly integrated internally, as well as with clients and partners.

Proactively managing disability eligibility and benefits

Prevalence rates for disabilities vary widely worldwide. Some countries report rates of 20 percent and higher, while others report rates as low as one percent. The rates diverge for a number of reasons, including different definitions of disability, different means for measuring disability and the accuracy of those measurements. The United Nations estimates that one in 20 people worldwide have a disability,² which would put the world population of people with disabilities at about 350 million.

Existing benefit application and qualification processes are often inefficient, daunting, and prolonged – creating barriers for those who need assistance.

Just as prevalence rates differ across countries, the needs of people with disabilities can vary significantly, depending on the disability. The needs of a person with mental illness, for example, are quite different from those of a person confined to a wheelchair by multiple sclerosis. People with multiple disabilities may require a complex and comprehensive array of services and benefits.

What is clear is that many disabilities are preventable. The World Health Organization, for example, estimates that around 70 percent of blindness in children in developing countries is either preventable or treatable.³ The key, of course, is in getting the preventive services or treatments to the people who need them. And that can be a fundamental problem.

According to the Queen's Centre for Health Services and Policy Research, people with disabilities use 2.5 times more primary care services than those without disabilities. In spite of this, disabled individuals are almost three times more likely to report unmet needs. In addition, 23 percent of people with disabilities report that the reason for their unmet needs is that they have to wait too long to access services.⁴

So, if we know that many disabilities are preventable or treatable, and it's been documented that people with disabilities have needs that are not being met, what can government organizations do to make it easier for those with disabilities to access the services they need—especially when it is generally accepted that it is more cost-effective to *prevent* a medical issue or treat it early on, when compared to treating it after it has become a crisis?

The challenge: How it works today

When a person applies for benefits or services related to a disability, he or she enters a process that is often complicated, intrusive and time-consuming—not only for the person with disabilities, but also for the professionals who work within the system.

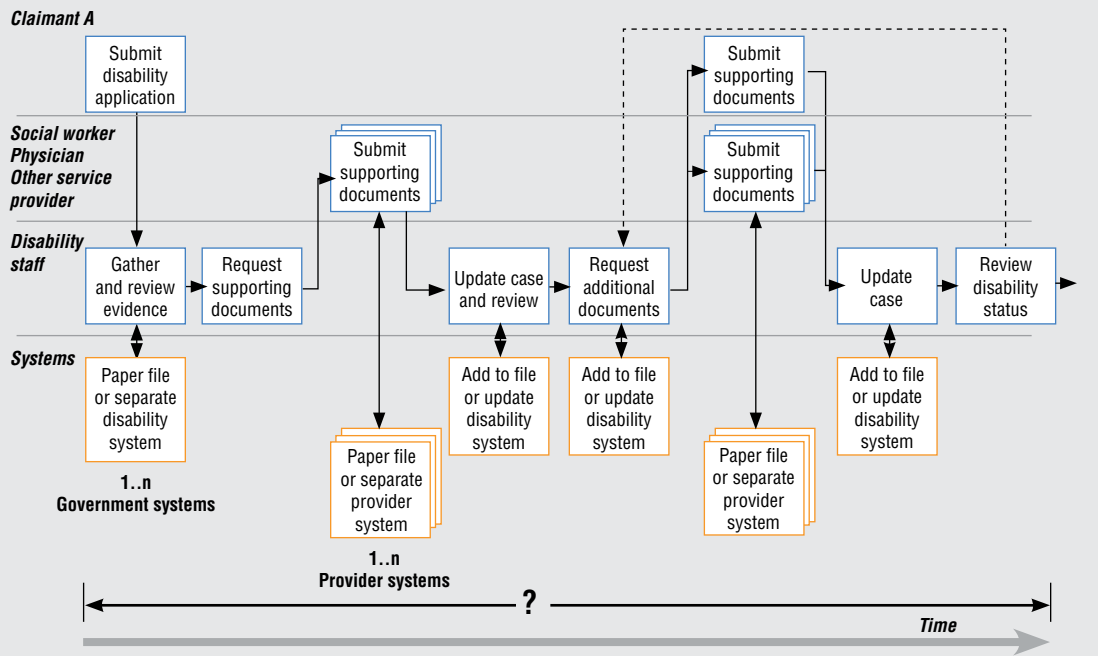
On the consumer side of the equation, individuals must submit a variety of documentation supporting their request for benefits. Multiple medical exams may be required and numerous forms completed. And the initial application may be only the beginning of the process.

Frequently, a person with a disability has multiple needs. In one study, for example, 23 percent of people with a physical disability reported unmet emotional needs. Fifty-four percent of people with psychological disabilities reported unmet physical needs.⁵ In today's social services and social security world, if the individual has more than one need associated with his or her disability, he or she typically must submit benefit applications for each (Figure 4). This means that multiple service providers must submit paper and/or electronic supporting documentation to multiple systems.

Once the individual is approved for benefits, the process continues because most organizations require a person to periodically submit to ongoing reviews in order to demonstrate that he or she continues to meet disability requirements. If there are multiple providers delivering services, they may be unaware of each other and the services that each are providing.

The process is no less onerous for the disability determination worker. The medical reviews associated with disability determinations are typically resource-intensive and

FIGURE 4.
Current approach to applying for disability benefits.



Source: IBM Institute for Business Value.

An SOA solution can help to simplify the benefits process dramatically by eliminating redundant paperwork.

time-consuming. Organizations must find a way to balance the demand for resources—for processing initial disability applications, as well as for conducting periodic and continuing disability reviews.

There is an answer.

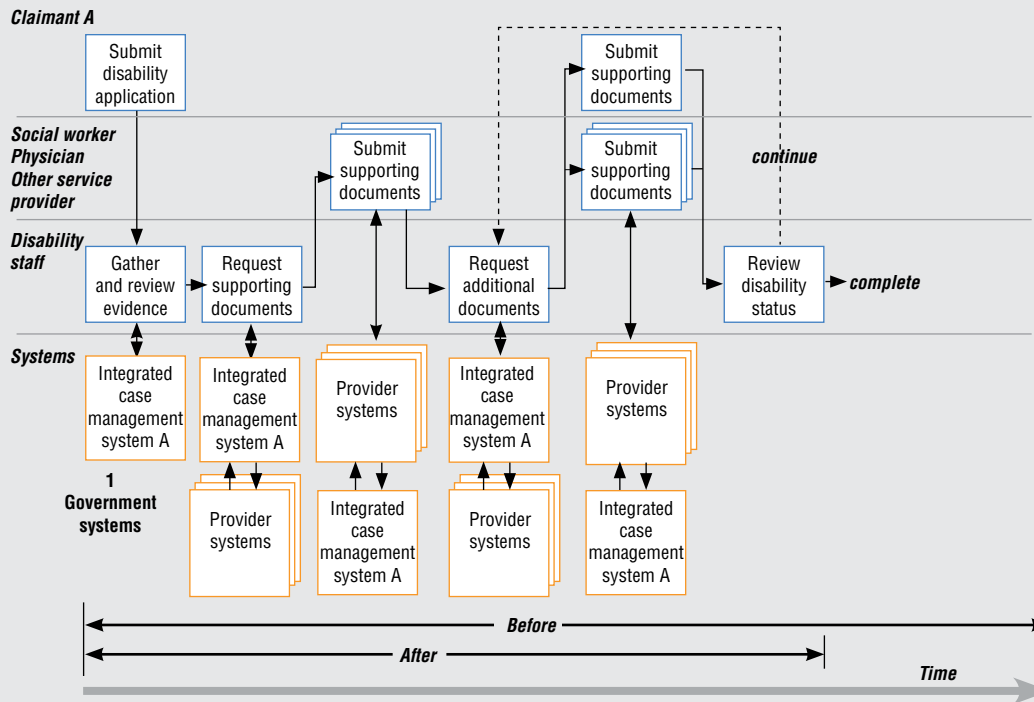
Integrating the management of disability benefits

There are technology solutions today that make it possible for government organizations to change their processes and allow their clients to submit one, integrated application for all of their disability benefits. The information they provide can be shared among multiple programs and departments. If a program

requires unique information, the client need only provide that idiosyncratic information. Common information—name, address, age, medical history—can be accessed when needed, regardless of the source. These solutions are referred to as integrated case management systems.

The ability to achieve integrated delivery of benefits has been hampered by technical barriers. The challenge has been, and remains, the integration of disparate systems. SOA can enable full integration so that the client only has to submit one application for multiple benefits. Figure 5 illustrates how an integrated case management system, enabled by SOA, can foster integration with external service providers.

FIGURE 5.
Revised approach to applying for disability benefits.



Source: IBM Institute for Business Value.

SOA can also help third-party providers who work with the client. With SOA, a client only needs to submit data and supporting documentation one time to support applications for multiple benefits. Provider systems are able to communicate with each other and with government IT systems. This can help save time, and allow professionals to focus their attention where it should be—on their clients (Figure 5). Ultimately, tighter technical integration can lead to providers delivering more direct value to clients.

The process changes illustrated in Figure 5 are possible because there is a *single view* of the claimant, which is shared by staff, claimant and providers. The overall cycle time

is shorter, and more functionality is available to both the government organization and the providers. This approach can help automate screening programs that can identify people who are receiving benefits to which they are not entitled; approve benefits for people who should continue receiving benefits because their condition is not likely to improve; and identify benefits and services to which clients are entitled, even though they haven't applied for them.

Some of these capabilities exist today, but their value can be increased further. SOA can help support full integration of both processes and systems across an organization. An existing eligibility tool that in the past may have been

The sharing of client information across systems – made possible by SOA – can help make case management far more efficient.

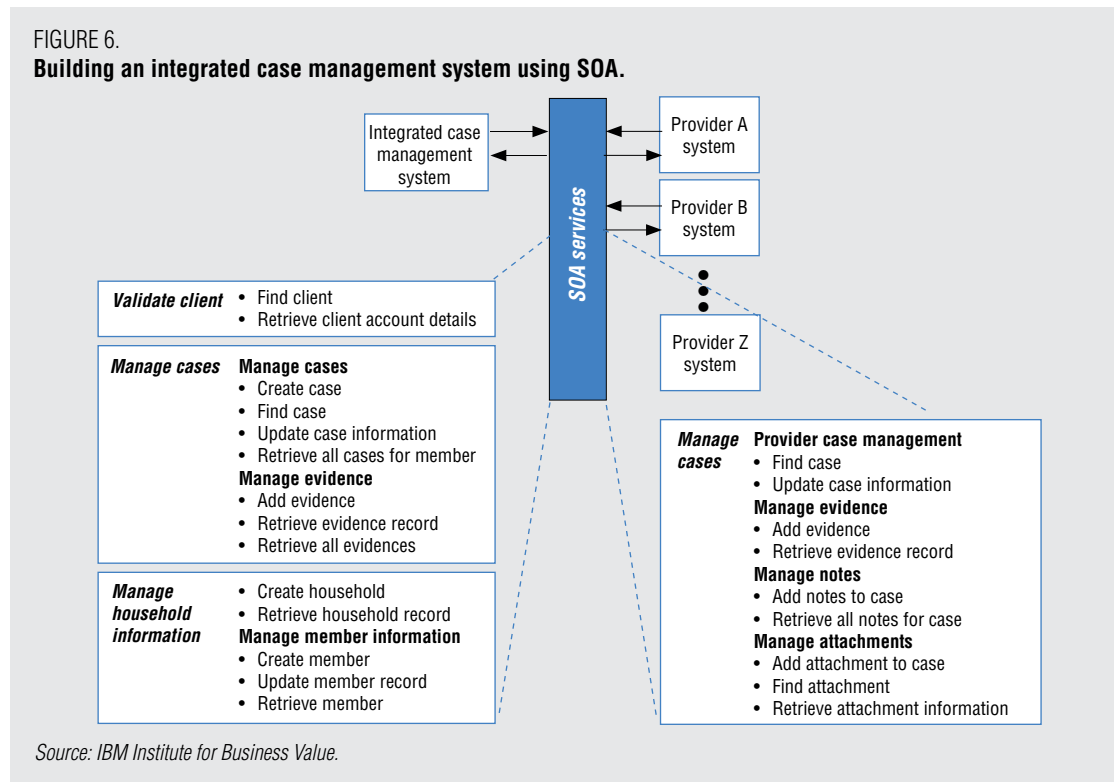
available to only government staff in one organization can now be made available to multiple government and non-government partners. Figure 6 shows how to facilitate this integration using SOA.

Because SOA uses software components or services, it can be easier to connect previously incompatible applications and combine case management functions using common databases. Case management systems may also share the tools that make it easier for workers to determine eligibility (Figure 6). Providers can have access to the tools they need, and government organizations may control access as necessary. But, in the end, it means that clients may more easily access the benefits and services they need.

The value of this approach

The business process change implied above is only possible if the systems supporting these processes can be integrated in the manner described. This level of systems integration cannot be done as it has been in the past. But it can be effectively implemented using SOA. An SOA-enabled architecture like the one illustrated in Figure 6 can help bring value to a government organization by facilitating a way to integrate with the gamut of providers involved in providing care for people with disabilities. This offers governments an integration approach that can allow providers to manage their own information in their own software applications and still share it with the government in a controlled, secure fashion. Only the appropriate information is shared.

FIGURE 6.
Building an integrated case management system using SOA.



For the citizen, the government organization now has a single interface to deal with, and all providers that participate can keep that interface current. This approach can help assist people with disabilities in a number of ways:

- *Improved client satisfaction*—Data is entered one time and shared enterprise-wide. Decisions may be made more quickly. Eligibility decisions can be made proactively, which can mean that clients can receive the services and benefits to which they are entitled—even if they didn't apply for them. For clients with conditions that are not likely to improve, decision support tools can help workers make quicker decisions to continue benefits.
- *Quality improvement*—Data is shared systemically, in real time, between software applications. This shared data is available in a single place. Because staff members have the information and tools they need to make better, faster decisions, people who are receiving benefits they are not entitled to may be identified sooner. Resources can be more readily directed to where they are really needed.
- *Productivity improvements*—There is no need to re-key data, as data is obtained from required systems as needed. Less time may be spent reviewing unnecessary disability applications, and more on viable requests and reviews.
- *Reduced costs*—By identifying people most likely to improve earlier in the process, organizations can help reduce administrative costs and the time spent managing cases that need fewer and/or less intensive benefits and services. (A significant number of disability applications are “obvious” disability cases. Identification of these cases up front can help save time and resources, and provide faster services and benefits to those in need).

Organizations that provide benefits and services to people with disabilities are looking for more efficient, cost-effective and less intrusive ways to perform disability reviews. With SOA-based systems, data can be brought together from many different sources to support quicker and more accurate decisions. Existing systems that were previously siloed can be integrated, and used in new ways to help improve service delivery. Benefits and services may be improved and held in check by using existing systems more efficiently.

Managing unemployment services at the point of contact*

Unemployment benefits can present considerable management challenges for government organizations. Because unemployment is almost always treated as a temporary phenomenon, unemployment-related programs are highly dynamic. Clients move in and out of the system, rules around payment levels can be complex, and there may be intricate interactions among unemployment programs and other social programs for which an individual could also be eligible.

Accordingly, the issues associated with the management and case processing of unemployment-related programs and benefits can be significantly more expensive than may be inferred by spending level. Expenditures on unemployment programs in OECD (Organisation for Economic Co-operation and Development) countries represent around one percent of Gross Domestic Product (GDP). This is a small fraction of the 20 percent of GDP that is spent on social programs in general, the 7.5 percent that is spent on pension programs, and the six percent spent on health programs.⁶ Nonetheless, that one percent represents a considerable sum – US\$333 billion annually.

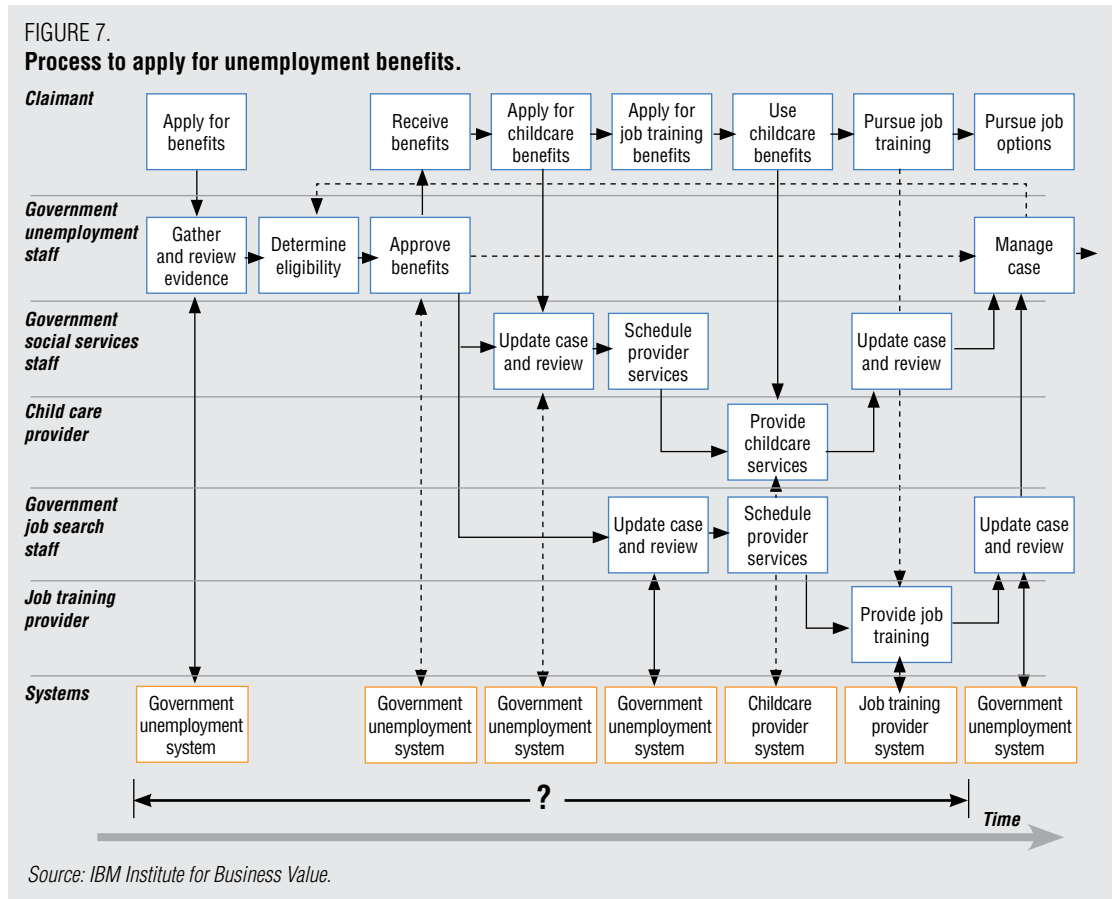
These challenges and expenses are amplified many times over when an economic downturn funnels large numbers of new clients into a system that is not prepared to address their needs. Systems can quickly become overwhelmed. Unemployment organizations must become more efficient in the way they manage cases, process unemployment claims and respond to change. The consequences of not doing so can include excessive expenditures in program and administrative costs, a failure to provide services that meet citizens' needs, and prolonged unemployment.

The challenge: Applying for unemployment benefits

Depending on the jurisdiction, when people apply for unemployment benefits⁺ today, they

may do so in person at an unemployment office, over the telephone, online, or by mail. After providing information like address and work history, they may then wait a few weeks to receive their first payment. Once the initial claim is submitted and paid, claimants must fulfill a number of ongoing requirements in order to continue receiving the benefit. They must file a weekly or bi-weekly claim, and typically have to prove that they are actively seeking work.

There are certain circumstances under which an individual may also be eligible for supplementary services like job training. To receive these types of benefits, the claimant may have to submit an additional application with further documentation. As shown in Figure 7,



Unemployment and related benefit services are often poorly integrated, requiring multiple applications to multiple organizations. With SOA, there is an opportunity to streamline and consolidate these processes.

the eligibility decision for these supplementary services typically, but not always, take place in the unemployment organization.

Often the claimant must apply separately for each service. Handoffs between multiple staff, as well as between organizations, may add to the total time it takes to deliver benefits and get the claimant to pursue job alternatives. The delivery of supplementary services may transpire in any number of places, including the unemployment organization, another government organization or a non-government organization. Job training services may be provided by a second government organization. Subsidized child care, which allows an unemployed parent to attend the training, might be delivered by an Nongovernment Organization (NGO).

The problem is that none of these services are integrated. The client must deal with multiple applications, provide the same information numerous times and endure long waits for benefits and services to begin.

There is a better way to deliver unemployment services.

Using SOA to integrate

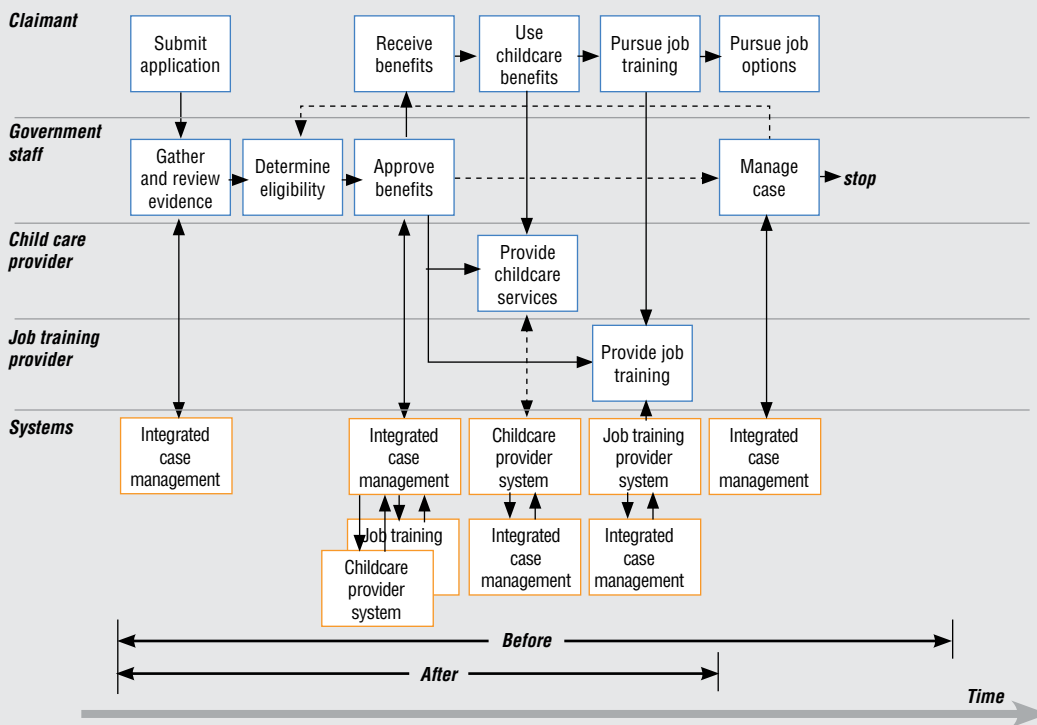
There are a number of software alternatives available today that provide an integrated approach to managing unemployment. Yet the challenge has always been how to integrate any of these solutions with the number of providers needed. SOA can help. Using an integrated case-management application provides the integration point. Applicants can use a variety of channels to enter information into a centralized unemployment system. This can help eliminate the need to visit multiple government offices and/or non-government service providers to apply for benefits or assistance in finding a job. It may also cut the cost of intake for government. With the claim-

ant's information in coordinated databases, a single rules engine can be used to analyze his or her eligibility for multiple programs. One case manager may arrange for and coordinate services across various units within the same organization, across organizations, among different levels of government and among government organizations and NGOs (Figure 8).

Now, only one "visit" to the unemployment office may be needed. It can take place in-person or online. The initial application can be augmented by self-service access to case information online or by phone—providing the information needed to plan the benefits and services necessary to get the claimant back to work as quickly as possible. Ancillary services may be pursued by the claimant more quickly as requests are queued at application time and data is shared among systems. Service providers can more quickly access claimant information, update case records, submit information required by funding organizations and bill for services provided. This revised, technology-enabled process is attractive, but the challenge is how to build such an integrated solution.

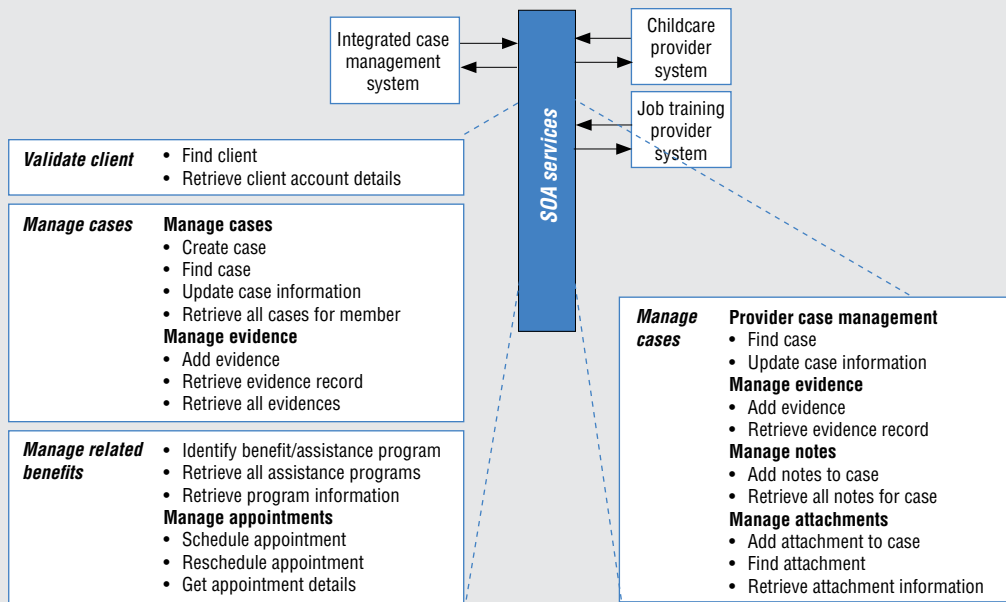
In Figure 9, integrated case management software is used to address the need for a single view of a claimant for an unemployment benefit claim. This enables a single view of all benefits and activities associated with the claim. To build this case management solution, however, it is necessary to integrate with third-party service providers—the child care provider or job training provider. Note that there are a number of SOA services specifically listed to identify appropriate services. Also note that other providers can be added as needed, or as they are able to integrate with the core integrated case management system. Now, however, a standard set of SOA services can assume the burden of this integration.

FIGURE 8.
Revised process for applying for unemployment benefits.



Source: IBM Institute for Business Value.

FIGURE 9.
Case management integrated with unemployment benefit service providers.



Source: IBM Institute for Business Value.

The value of this approach

This kind of process change is possible because the systems required to support the process may be more easily integrated with other service providers also supporting the process. This level of systems integration was almost impossible using prior costly and ineffective approaches. SOA offers a standards-based, non-intrusive approach to integrating the systems required to support streamlined benefits management. As shown in Figure 9, SOA services may be added to existing applications to allow new, integrated views or integrated case management solutions to access data and update these systems from a single point of control. Since services are more granular than applications, this can make them easier to orchestrate. They're interchangeable and transferable. And that can help make the operating environment flexible. When a service component is exposed from an application, its functionality may be enhanced and access to it may be controlled simply by changing its protocol. And it no longer matters where a particular "service" resides on the systems.

An SOA-enabled solution like the one illustrated above can help government organizations assist unemployed people in a number of ways:

- *Improved client satisfaction*—Self-service options allow clients to enter and update their case information more easily. They can become an active participant in managing

their case. Data may be shared enterprisewide, which means that decisions can be made more quickly. Clients may go to one source for all of their needs: information, initial application and case coordination.

- *Reduced costs*—Costs may be reduced by applicant self-service and through the use of shared eligibility processing for multiple services. The possibility of fraud may be lessened through the integration of systems and improved information-sharing.
- *Increased productivity*—The need for case workers to understand complex eligibility requirements across disparate programs may be reduced or eliminated.
- *Improved client outcomes*—By coordinating all available services and information sources, the likelihood that the claimant will become gainfully employed and self-sufficient within a reasonable time period may be significantly increased.

Dramatic changes in industrial relations legislation and practices have been occurring worldwide, and countries are moving from highly centralized and regulated labor systems to systems that are decentralized and less regulated. The intent is to become more flexible and efficient. IT systems enabled by SOA can help provide these advantages and meet security and privacy concerns by re-using services to add functionality and integrate business partners.

SOA provides the tools that social services and social security organizations need to meet the needs of the public faster – with more flexibility and with greater efficiency – making benefits programs a more effective tool for social change.

Meeting the most pressing needs of social services and social security organizations

As seen in the examples above, service-oriented architecture can help social services and social security organizations respond to the many challenges and priorities confronting them today.

- Using a retirement pension scenario, we showed how SOA can enable new business functionality involving government, employers and financial institutions – without replacing existing computer systems.
- An SOA approach for managing disability benefit determinations illustrated that existing single-purpose systems could be integrated to improve service delivery and provide a single view of the client. Benefits and services may be improved and costs held in check by using existing systems more efficiently.
- An unemployment scenario was used to demonstrate how a service-oriented architecture provides access to individual functions within applications – making the operating environment more flexible and providing greater opportunity for business process change.

Although only three program areas were highlighted here, the truth is that the types of challenges discussed are common to most social organizations worldwide. This was demonstrated in 2006, when 582 executives across the full spectrum of social services and social security organizations were surveyed – with the goal of identifying the key strategic and technological challenges facing government organizations delivering social programs in the U.S., Europe and Canada.⁷

When asked about their most pressing challenges and spending priorities, the government executives surveyed identified the following:

- Cost containment
- Flexibility
- Efficiency
- Being more responsive to client needs
- Service availability.

SOA allows social services and social security organizations to design – and redesign – business processes and models with greater ease and speed so that they are better equipped to respond to these challenges. In an economic climate that is requiring these organizations to provide more services and benefits to more clients, this type of flexibility is essential.

Conclusion

How do you get started? A good rule of thumb is to look at incremental implementation. Starting small may be the surest path to success. You can begin with an enterprisewide project, of course, but if you implement SOA and Web services projects in an incremental fashion, you can invest incremental returns in additional projects while also helping to reduce risk. Once you have established an SOA infrastructure and reusable services in one part of the organization, successive projects can build upon that foundation.

At the same time, you will want to understand what your business looks like. Deconstruct your business model. Break it down into discrete service components. Each component serves a unique purpose and collaborates with other components within the business model, using agreed cost and service levels.

Most social organizations have an organizational chart. They use it to describe their organization: who reports to whom, how one department relates to another. Far fewer have a chart that tells them everything the organization does. Which things are done in multiple places within the organization? Are other groups throughout the enterprise in need of something similar? What is the cost of each process?

When you can answer these questions and clearly define what your business does, your organization can begin the critical step of prioritizing the investments required to improve service delivery. These priorities can then be mapped to the technical services that SOA can provide via the applications you have today, or the new applications you may invest in tomorrow. This mapping will allow you to see the commonalities across programs and you can begin to eliminate unnecessary duplication and reuse SOA services to increase your efficiency and reduce costs.

Focus on building an enterprise architecture that clearly enforces the principles of SOA so that “buy and build” decisions are based on the business and technical services that are needed. Then, enforce those decisions so that development can meet the business need, and also adhere to industry and organizational standards.

An investment in SOA is not about buying information technology; it's about investing in business flexibility. SOA can allow social services and social security organizations to design – and redesign – business processes and models with greater ease and speed. Today, there are SOA solutions that are specifically designed to support social organizations – fully integrated with an industry model that can help facilitate business component re-use, reduce complexity, decrease development and testing times, and support service-oriented architecture for more business agility. Although it can't do it alone, SOA can help fundamentally alter how social organizations collaborate and deliver services and benefits.

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In 1999, IBM decided to leverage the skills and experience that it had gained in the social services and social security market through the formation of the IBM Global Social Segment. This team organized to capitalize on an extensive project portfolio and extensive client experience. The IBM Global Social Segment is led by an international team of business experts in social services and social security. The team is responsible for IBM thought leadership, solution investment and determining how we meet the needs of our social services and social security clients around the world.

Teaming with the industry teams like the IBM Global Social Segment, the Application Innovation Services practice brings the breadth of skills required to design, build and deliver SOA solutions like those described in this paper. This team provides consulting, delivery expertise, advanced technologies and accelerators for complex system integration and custom application development needs worldwide.



References

- ¹ United Nations, Population Division. "World Population Will Increase By 2.5 Billion By 2050; People Over 60 To Increase By More Than 1 Billion." Press Release. March 13, 2007.
- ² Department for International Development (UK), Disability, Poverty and Development. February 2000.
- ³ WHO, The Prevention of Childhood Blindness, Geneva, 1992.
- ⁴ Queen's Centre for Health Services and Policy Research, Access to Primary Care: New information for people with disabilities, 2003.
- ⁵ Ibid.
- ⁶ OECD, Social Expenditures Database (SOCX) 1980-2001.
- ⁷ IBM, Social Services and Social Security in the United States, Canada, and Europe, August 2006.

Endnotes

- * Throughout this section, the term "unemployment programs" will be used to refer to programs designed to support individuals who are out of work through the provision of financial resources and support intended to help people find jobs. In some countries, these programs are called "employment programs."
- † Based on OECD 2005 estimate of GDP for OECD countries totaling US\$33.3 trillion.
- ‡ There are two broad categories of benefits that an unemployed individual may receive:
- *Financial Support* typically includes either social insurance or social assistance benefits. *Social insurance* is an indemnity arrangement where replacement income is provided at a level that relates to the individual's income from previous employment. *Social assistance* benefits are based on a welfare response to unemployment, and generally provide a minimum level of income, often funded out of general taxation. Unemployment assistance is usually based on an assessment of need, which may include the worker's family commitments.
 - *Employment-related services* include a range of services (job-related training, personal skills enhancement and assistance with job-seeking activities) designed to enable individuals to participate in the labor market.

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