

Leveraging ICT: The Real Opportunity for Achieving Performance in Delivering Government Services

WHITE PAPER

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GOVERNMENT INSIGHTS OPINION

Government agencies are in the "business" of developing and delivering public services. Government Insights has observed that today's most effective government agencies are very results-based in their efforts and savvy in their development of public sector IT systems.

Yet, such success also breeds complexity. As government systems grow, there are even more people to serve and additional services to provide. Meanwhile, government workers need access to all types of data, residing on all types of systems.

One powerful solution to this problem is the concept of information communications technology (ICT). A concept that's gaining currency throughout the world, ICT is a way for government managers to offer more effective public services. As a concept, ICT should be a facilitator through which improved information systems are constructed, improved communications channels are established, and government services are improved. Think of it as a merging of traditional information technology with networking and communications constructs. They all come together as a set of technologies that can be considered as a single concept.

In the next few years, Government Insights believes that this idea will continue to gain significant traction as governments consolidate their major IT systems and settle on best-of-breed solutions for everything from applications to networks to communications systems. Flexibility is key for improved system interactions, and ICT provides that on an affordable scale.

ICT also has the potential to facilitate component-based architectures at many public sector sites, allowing government systems managers to draw on all systems and data types that are available throughout their organizations.

GOVERNMENT OVERVIEW

Government, at every level, is responsible for providing services to its citizens. While government has many roles, the central "business" of government is the development and delivery of public services, whether it's healthcare, education, finance, or public safety & protection. And, to be truly effective, those services must be citizen-focused and results-based.

Increasingly, government performance in the delivery of those services will be based upon the concept known as information communications technology (ICT). Government information technology management has grown into one of the largest and most dynamic IT markets, with global spending increasing from \$130.0 billion in 2005 to \$165.8 billion in 2009. That's a compound annual growth rate (CAGR) of 6.3%. Additionally, there is generally strong growth in the government IT services market. Worldwide, the services market is growing from \$69.3 billion in 2005 to \$87.9 billion in 2009, with a CAGR of 6.1%.

Both of these growth areas offer a strong sign that the public sector is committed to achieving a true transformation in the development, performance, and delivery of public services. This growth is stoked by the mounting complexity of government IT systems. Public sector agencies increasingly rely on skilled systems integrators to build their applications and structure their systems in a way that allows ongoing access to all types of data, including older data and shared data repositories.

In deference to all of the short- and long-term data and system management needs outlined above, this white paper will focus on information communications technology (ICT), and how the application of its processes, capabilities, and technologies can be leveraged to drive meaningful results.

KEY CHALLENGES

The ongoing challenge for government is that there are more people to serve, more services to provide, and greater investment is needed in "government preparedness." At the same time, most government organizations are being asked "to do more with less," and that places even more pressure on them to creatively and effectively leverage available technologies.

- **Aligning new projects with government enterprise architecture requirements.** Such requirements may be part of a governmentwide mandate, or they could be set by local IT managers. Either way, engineers and project managers face unique challenges when they are required to design systems to meet specific system and data interchange requirements. This cuts right to the heart of the ICT concept and process — combined IT infrastructure and communications technologies. The enterprise infrastructure itself defines how organizations modernize their operations, including making decisions on how to most effectively manage their IT assets, eliminate information silos, minimize operating expenses, and control capital expenditures.
- **Supporting business transformation with common processes.** Often closely aligned with enterprise architecture standards, business transformation focuses on formal, standardized business transformation methodology adapted to the public sector. This includes business goals that are defined and described in both a language and format that government executives and managers understand. To make such a transformation work, government IT managers need alignment tools that will enable rapid changes to their business processes and to the infrastructure that supports them. Powerful technology partners who understand this space are key.
- **Facilitating enterprise modernization.** This is the path that government agencies follow in order to transform their business and meet enterprisewide standards, such as the architecture requirements for new systems. It often means migration from legacy systems or determining ways to achieve greater collaboration and interagency sharing, dealing more effectively with unstructured data, consolidating silos of information, and more. When we talk about the convergence of information technology, telecommunications, and data networking technologies, enterprise modernization sits at its core.

- **Enabling egovernment and supporting citizen expectations.** Citizens increasingly seek real-time, 24 x 7 access to government information. They want access to government self-service portals where they may conduct their business in real time. IT managers are expected to enable such capabilities, but often they face the daunting challenge of making these portals seamlessly interact with legacy back-end systems.
- **Dealing with pressure to achieve greater operational efficiency.** As functions and processes are improved, the goal at most government organizations is to make internal operations more efficient by lowering cost and reducing complexity. This means streamlining operations, reducing redundant data entry, and merging redundant systems while making information shareable between applications and agencies.
- **Business or operational continuity.** The ability to "continue" with key operations is essential to public sector organizations. Whether it's a taxation system for a ministry of finance, a new court records system, or other types of data collection systems, essential information must be protected. Business continuity usually involves deploying a set of processes that will ensure that an organization's essential business functions are able to continue in the event of any unexpected circumstances, including natural disasters, human error, terrorist activities, etc. Government agencies are being asked to manage these risks, and need to possess the correct ICT tools and processes to do so.

As public sector organizations tackle these challenges, they need to understand their own long-term needs and design infrastructures that are flexible enough to support those needs as they evolve over time. Increasingly, technology becomes a strategic asset and not just a tactical tool.

ICT: ENABLING TRANSFORMATION

While most government direction is set by legislation, the actual functional operation of government is increasingly dependent on the managing organization's ability to modernize and transform many of its processes. The use of ICT as an enabler for this transformation offers the dual benefit of improving both internal government processes and the delivery of services to citizens.

So what is ICT and why is it important? ICT is many things. It's a vision and a direction; it's a set of guidelines and a framework; it's used to formulate policies, modernize functions, and consolidate resources. Stated another way, ICT represents the convergence of information technology, telecommunications and data networking

technologies into an overall system that can be addressed as a flexible, single technology concept.

ICT gives government organizations the opportunity to offer more effective public services and to provide those services more efficiently. There are initiatives worldwide directed at leveraging ICT for a variety of purposes, such as information dissemination, e-government for interaction between citizens and government agencies, educational training around technology skills development and many, many more. Improving government responsiveness, enhancing governance practices and reducing costs are just some of the benefits that can be derived from ICT. **Bottom line:** ICT is an enabler, strategically and tactically, for improved performance in the delivery of government services.

But ICT isn't just about doing IT better; it's about doing IT "differently." It's about building services that are more interconnected, more personalized, and more effective. Within and across organizations it means standardization of processes for common functions. While that approach will logically drive some much needed consolidation, done effectively it will also create a framework for specialization of "added value" services as well as a "network of services" to improve the customer experience.

ICT is rapidly gaining global acceptance and organizations worldwide have embraced its direction. For example, the UN and the World Bank are deeply involved. They believe that ICT will help harness the "knowledge economy" that's needed to spur growth and services delivery in both developing and "developed" economies worldwide. ICT is accepted and delivering benefits throughout government departments in Australia, Japan, Canada, Finland, Africa, etc. ICT has been used to strengthen public education (smart schools and distant learning), improve healthcare delivery (telemedicine), streamline government processes (e-government and paperless administration), and more.

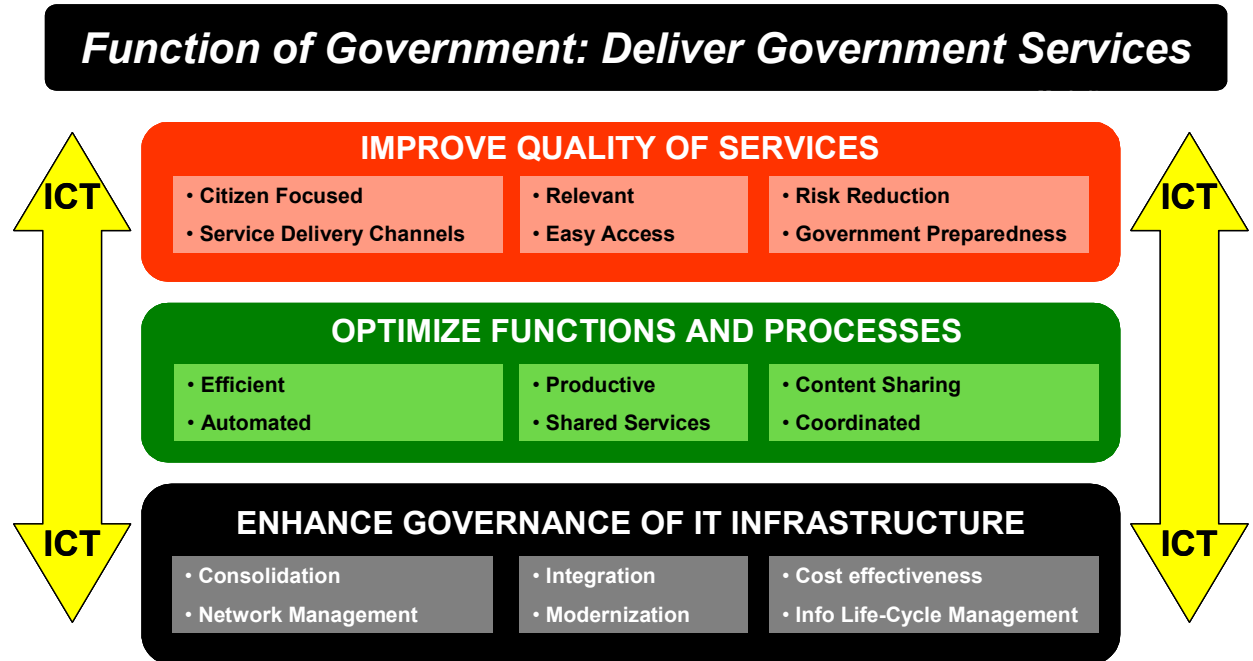
ICT also plays a role in empowerment, fiscal optimization, government transparency, and social growth. It provides citizens with a way to interact with government through new channels, such as expanding organizational or agency flexibility. It opens new opportunities by creating a knowledgeable and growing ICT workforce, and it drives greater efficiencies at almost every point.

Figure 1 illustrates some of the key aspects that need to be part of any meaningful transformation for enhancing both the development and delivery of government services. Globally, as government and public sector organizations embark on modernization projects, improving their enterprise infrastructure is central to the overall process. That means determining how to best manage their IT assets; use services to align IT with business requirements, such as adopting a service

oriented architecture (SOA); focus on system consolidation and business process streamlining; manage content throughout its information life cycle; and minimize both operational expenses and capital expenses.

FIGURE 1

Development and Delivery of Government Services



Source: Government Insights, 2006

From a functional and process perspective, public sector organizations need to address new data integration imperatives and move away from their historic information silos. This means integrating structured and unstructured data, developing common standards for data sharing, driving cross-functional communication between departments and agencies, and automating business processes wherever possible.

Striving for such a results-oriented approach means government organizations at every level need to remain citizen-focused by improving information access and availability, rapidly and effectively creating new yet relevant services, and, in general, raising their level of government preparedness to better support the various needs of their citizens. Here are some key areas to focus on around ICT.

- Information management optimization
 - Optimize the integration of people, process, and technology
 - Enable delivery of an enterprisewide information service model with service level agreements
 - Enterprisewide information and records handling
- Architecture and consolidation
 - Consider adopting a service oriented architecture (SOA)
 - Rationalize server and storage platforms to reduce both complexity and cost
 - Reduce both complexity and cost
- Information protection
 - Improve application productivity, availability, and recovery
 - Mitigate financial, legal, and image risks
 - Increase control and improve service levels for business continuity
- Information life-cycle management
 - Align the value of applications and information with technology and service levels
 - Maximize the value of information at every point in its life cycle
 - Optimize a tiered storage infrastructure

Understanding "what" government does and "how" government does it is critical to aligning the infrastructure, functions, and desired results to achieve optimal services delivery. Therefore, transforming the public sector also means transforming the underlying processes and capabilities that support those services. ICT offers a holistic approach, which addresses all of these issues. It asks organizations to think about how all of these issues can be address in concert. ICT therefore becomes the key "enabler" within the transformation process. It will help organizations leverage technology to revise or redesign current functions while providing a foundation for more creative and dynamic services delivery in the future.

FUTURE OUTLOOK

The continued growth through 2009 of public sector content management spending and storage management spending indicates that these solutions are being taken seriously by government agencies. At the same time, pressure to achieve system consolidation and the desire to achieve enterprisewide management of all data should continue to drive interest in the solutions outlined in this paper.

Leveraging IT systems and better managing data will lead to the true transformation of public sector services.

One key example is the development in the United States of so-called centers of excellence for shared government IT services. In such a scenario, individual agencies stop maintaining their own systems for things like human resources, application processing, or financial management. Instead, they contract with another agency that has been identified as a central provider of such services. The centers of excellence approach should not be confused with outsourcing. The ICT functions still remain within the government, and they are mostly staffed by government employees. The difference is that other agencies will gravitate toward the center that offers the best service and price. In order to participate in such centralization efforts, agencies need to have their full enterprise in order, including network bandwidth, application gateways, telecommunications and back-office IT systems. In Europe, it's more common to find "internal" agreements within government organizations whereby they will share services support, such as common datacenters, using each other's existing facilities for mutual backup.

By focusing their attention on ICT and plugging into a standardized way for their systems to interact with other agencies, governments can enjoy greater flexibility as they choose the best solutions for their specific needs.

Other issues are also driving this process. For example, in the United States, communications failures related to last year's Hurricane Katrina showed the importance of ICT. Systems need to be able to exchange data quickly and reliably when problems occur. Worldwide, many countries, central governments, and local agencies are doing a better job sharing data to more effectively handle homeland security issues.

- The U.S. federal government recently outlined 12 goals for the government, such as having a dependable and trusted network, setting standards to assure that agencies have enough bandwidth, frequency and computing capabilities when needed. They also must develop the capability to consistently refresh situational information and apply federal data-tagging standards and information assurance rules. Similar efforts are evolving in many other countries.
- In Canada, the government has established an ICT branch of Industry Canada, which influences policy and decision makers to position Canadian companies for growth and innovation in the global marketplace. (Industry Canada is the government department responsible for competition, consumers, information highway, investment, regulation, and other business and industry-related matters.)
- Many governments in the Asia/Pacific region are migrating from IT to ICT as a systems concept. None of the governments have made a full transition yet, but Singapore, Hong Kong, and Australia have arrived at what might be called "ecitizen" status. This means they are at a stage where they are consolidating their islands of data, setting up a common data standard, and automating most of their processes. The governments are designing their eservices around the citizen and around specific lifestyle events. There is now a single log-on ID for everyone, which can only be done by leveraging IT and communications technology. Without that, the necessary connectivity and security would be lacking.
- In Europe, the European Parliament recently adopted the concepts of a report known as *Commission Communication i2010: A European Information Society for Growth and Employment*. The report stresses the importance of ICT as a way to address the goals of the Lisbon strategy for economic growth set out by the European Union six years ago. The i2010 report provides recommendations on how to bridge the digital gap in order to give all citizens access to ICT. In particular, the report advocates a series of measures, such as the gradual adoption by public administration bodies of a Charter of Digital Rights that would commit those institutions to ensuring that citizens fully benefit from the advantages of the knowledge economy. Clearly, ICT is being taken seriously by governments around the world.

RECOMMENDATIONS

- In general, governments should consider ICT improvements to be a force multiplier, a way to extend the impact of their systems while improving their outreach to citizens.
- Government systems managers need to shop and compare features when evaluating ICT solutions. Both enterprise content management and modern enterprise storage needs require solutions capable of delivering the integration, cross-platform interoperability, data management tools, performance monitoring, and security features that provide the best business value for an organization. As government IT centers move in this direction, it's important for system planners to make a list of their required features and shop around for the best system that offers most or all of their required features.
- Government offices should deal with systems integrators and hardware and software vendors who can provide true integrated business solutions. Stay away from solutions that only address one or two of the issues you need to resolve, unless that's the way your agencies will "get started" on larger integration.
- Project planners should look for ways to migrate to lower-costs shared services when applicable. Building up centralized expertise for these functions allows them to professionalize their support functions. Human resource and financial systems are common targets for share service migrations, but they can be the most complex systems to move. Office systems and legal systems should also be considered for shared services, and they can sometimes be easier to migrate.
- Agencies should strive to understand their governmentwide enterprise architecture requirements, and how current requirements can be addressed by ILM. While they should make sure any chosen solution fits those requirements, they also need to be sure their own business needs are met.
- Public sector IT managers shouldn't look at storage hardware prices or content management application prices as their primary purchase criteria. It reflects an out-of-date viewpoint that the value of the IT infrastructure exists in hardware and application licensing costs. Ongoing management costs should also be considered (ease of use) as well as total cost of ownership considerations. These help provide a better standardized data management view across an enterprise.

- Government agencies should consider establishing a data warehouse. Such warehouses can be powerful tools for planning and management at all government levels. At the state or district level, they give managers quick access to valuable data, and by blending their own data stores with other government data, they can be enhanced with additional information like census maps or statistics, surveys, and nationwide comparison charts. At the national level, the data warehouses can be used for valuable program management and long-range national planning.

CONCLUSION

Clearly, many central governments have decided to migrate from standalone systems to more integrated solutions that address the broader business needs of government agencies. Meanwhile, state and local governments are viewing these early successes, and they're following suite with their own broad ICT solutions

But the government IT-spending increases mentioned earlier in this document have not yet addressed all of the challenges that government's face. For example, state and local government offices in Louisiana in the United States lost some vital records during Hurricane Katrina in 2005. The loss, which included police records, court records, and social services records, was as much a management issue as a disaster issue. Better disaster planning and business continuity strategies could have protected many of these records.

When ICT becomes fully implemented across a public sector organization, interesting things start to happen. Rather than spending tens of millions of dollars building new applications, they can start building those applications out of existing components, drawing on existing databases and applications (and application programming interfaces) that exist across their network.

There is no limit to the scale of such composite applications. Once the structure is in place, governments can more easily get down to the business of public services.

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