ICA Country Report: Singapore e-Government

iGov2010: From Integrating Services to Integrating Government

Submitted by: Pauline Tan
National Representative, Singapore

Infocomm Development Authority of Singapore
Contents

About Singapore and its Infocomm Environment 2
Structure of the Singapore Government 2
Singapore Government’s Infocomm Journey 3
The Strategic Approach to e-Government 4
Singapore e-Government Leadership & Management 5
Achievements of Singapore e-Government 7
Moving Forward and New Initiatives 12
Conclusion 15
ABOUT SINGAPORE AND ITS INFOCOMM ENVIRONMENT

Singapore is an island republic with a land area of 699.4 sq km and a population of 4.48 million, resulting in a high population density of 6,222 per sq km. Singapore’s per capita GDP in 2006 was US$29,474. The literacy rate in Singapore stands at 95% among residents aged 15 years and above\(^1\).

Singapore has grown into one of the most connected Asian cities with more than 16 Gbps of extensive and direct Internet connectivity to over 20 countries. 78% of households own personal computers and 71% of households having Internet access.\(^2\) With a nationwide broadband infrastructure, household broadband penetration stands at 55.6%.\(^3\) Mobile phone penetration rate exceeds 100%, overtaking the fixed line penetration rate of 41.1%. This makes Singapore one of the highest mobile penetration rates in the world, and Singaporeans are among the highest extensive users of Short Message Service (SMS).

STRUCTURE OF THE SINGAPORE GOVERNMENT

Singapore is a republic with a parliamentary system of government. A written constitution provides for the organs of state, namely the executive, the legislature and the judiciary.

President S R Nathan is the Head of State. The Prime Minister is Mr. Lee Hsien Loong, who is appointed by the President. On the advice of the Prime Minister, the President appoints other Ministers to form the Cabinet. The Prime Minister and the other Cabinet members are appointed from among the Members of Parliament.

---

\(^1\) 2005 Key indicators from Singapore Department of Statistics at www.singstat.gov.sg
\(^2\) IDA’s Annual Survey on Infocomm Usage in Household and by Individuals for 2006
The Prime Minister leads the Cabinet, which is responsible for all government policies and the day-to-day administration of the affairs of the state. It is responsible collectively to Parliament, and comprises the Prime Minister and the Ministers in charge of the Ministries of Community Development, Youth and Sports; Defence; Education; the Environment and Water Resources; Finance; Foreign Affairs; Health; Home Affairs; Information, Communications and the Arts; Law; Manpower; National Development; Trade and Industry; and Transport. Details of each of the Ministries are available online at www.gov.sg.

SINGAPORE GOVERNMENT’S INFOCOMM JOURNEY

Singapore has come a long way in its e-Government efforts. But infocomm technologies are not an end in itself, but a means to an end – to serve our customers and citizens in the best possible way. Singapore sees e-Government as a means to reinvent the government. The overall vision for e-Government is to delight customers and connect citizens through infocomm. To achieve this, a number of national plans were put in place through the last 25 years.

The Government’s infocomm journey started in the early 80’s with the aim of transforming the Singapore Government into a world-class user of information technology. The Civil Service Computerisation Programme automated work functions and reduced paperwork for greater internal operational efficiencies.

The late 90’s saw the convergence of information technology and telecommunications which transformed the concept of service delivery. This paved the way for the launch of the e-Government Action Plan (2000 – 2003) and the e-Government Action Plan II (2003 – 2006). The key objective of the first plan was to roll out as many public services online as possible, while the emphasis of the second plan was to improve the service experience of customers.
Building on the achievements of the earlier e-Government plans, iGov2010, a new five-year masterplan that leverages infocomm to continue to delight our customers and citizens, was launched in May 2006. With iGov2010, the Singapore Government aims to be an Integrated Government (iGov) that brings its service delivery and operations to a new level by 2010. See Annex A for synopsis on our e-Government plans through the years.

Singapore’s 25 years of Government infocomm journey has evolved in tandem with the larger National infocomm journey of Singapore. While the Government infocomm plans such as the Civil Service Computerisation Programme, e-Government Action Plan I and II and iGov2010 set the key thrusts and strategies for transforming the government sector, the National Infocomm Plans are directed at transforming the industry and society. The development of iGov2010 masterplan therefore plays an integral component of Singapore’s new national infocomm masterplan, called iN2015 (“in twenty-fifteen”). Singapore will be building on the current success to propel the nation to the next phase of infocomm development. The vision is a Singapore where infocomm will help to create an environment conducive for flourishing businesses, smart workforce and a well-connected society. For more information on the iN2015 programmes and initiatives, please visit www.in2015.sg.

THE STRATEGIC APPROACH TO E-GOVERNMENT

The driving forces that shape Singapore’s e-Government efforts are:

1. Rising customer expectations
   Customers’ expectations are constantly changing in the infocomm landscape where technologies are moving faster than we can imagine. Beyond providing a 24 by 7 e-Government, we need to provide government services that meet the needs and lifestyles of the changing populace.
2. Online medium becoming the medium of choice
Even as there are resistant from a small segment of population from using online services, there are growing numbers of citizens who prefer the online medium to the traditional medium. Not only does it save time, the online medium is also more efficient.

3. Competitive global environment
In a changing global landscape, Singapore is committed to using infocomm to improve service delivery as well as the country’s competitive advantage.

4. Increasing need to do more with less
In a vibrant society like Singapore, together with a relatively fast-paced lifestyle, there is an increasing need to do more with less through the use of infocomm. Efficiency and productivity are key elements in such a context.

Singapore’s approach to e-Government centres on the following six vital ingredients:
1. Clear vision
2. Committed leadership
3. Closely involved stakeholders
4. Constant communication with customers
5. Continuous improvement
6. Countable outcomes

SINGAPORE e-GOVERNMENT LEADERSHIP & MANAGEMENT

Singapore has achieved significant success in the implementation of e-Government. We are recognized internationally as a leader in e-Government. In the 2007 study on e-Government by Accenture, Singapore was ranked first.
Singapore also took the top spot in the 2007 World Economic Forum’s IT Report in the area of Government Usage and Government Readiness.

The iGov Council is the highest approving and decision-making committee, chaired by the Permanent Secretary of Finance, comprising members who are Permanent Secretaries of Ministries who have been appointed as eTown Mayors. Each eTown Mayor is responsible for the development of a particular eTown (e.g. Education, Learning & Employment eTown) in either the eCitizen Portal (ecitizen.gov.sg) or the Business portal (business.gov.sg).

The iGov Council provides policy and strategic directions on all programmes under the iGov2010 masterplan, which is a masterplan to propel the Singapore e-Government to a new level of excellence by the year 2010.

The Permanent Secretary of Finance also chairs the iGov Advisory Panel, a Panel that comprises representatives from both the public and private sectors. Besides advising on global trends in e-Government and their impact on Singapore, the Panel also provides feedback to the Government on areas where implementation efforts can be improved.

The Ministry of Finance (MOF) owns most of the central Infocomm technology infrastructure, services and policies within the public sector.

The Infocomm Development Authority of Singapore (IDA) is the Chief Technology Officer and Chief Information Officer to the Government of Singapore. As the CTO and CIO to the Government, IDA:
  o Provides technical advice and recommendations
  o Defines and recommends Infocomm technology policies, standards and procedures
  o Performs service-wide Infocomm technology master planning
  o Advises on and manages the central Infocomm technology infrastructure
Manages central Infocomm technology projects

Permanent Secretaries of Ministries, Heads of Organs of State and Chief Executive Officers of Statutory Boards are responsible for agency-specific Infocomm technology infrastructure and services within their own organisations. Assisted by their CIOs, they:

- Articulate the organisation’s vision in the exploitation of Infocomm technology
- Align Infocomm technology policies, standards, projects, systems and infrastructure with those of the central authority, to meet business needs and priorities
- Provide leadership in the planning and prioritisation of IT initiatives, in alignment with the iGov2010 masterplan
- Ensure appropriate management attention, manpower and monetary resources are given to implement Infocomm technology initiatives

Since May 2004, a CIO Forum was formed comprising CIOs from key agencies to promote inter-agency sharing of best practices and systems, consultancy and review of existing central systems and investment, thereby creating opportunities for greater collaboration.

**ACHIEVEMENTS OF SINGAPORE e-GOVERNMENT**

Since the launched of the iGov2010 Masterplan in May 2006, Singapore has made significant progress in the i-Government journey. The achievements can be categorized in accordance to the four strategic thrusts under the iGov2010 Masterplan:

1. Increasing Reach and Richness of e-Services
2. Increasing Citizens' Mindshare in e-Engagement
3. Enhancing Capacity and Synergy in Government
4. Enhancing National Competitive Advantage

1. Increasing Reach and Richness of e-Services

As part of the continuous efforts to increase the richness of e-services, the government works closely with the public and private sector to bundle the e-services to provide greater value and convenience to citizens. The MyeCitizen personalization portal put together private and public sector services and contents. Citizens can also personalize their experience by selecting their areas of interest and receive information on them. Moving on, the government will explore introducing services that will anticipate the needs of our customers. To increase the reach of e-services, the aim is to provide a network of CitizenConnect centres, spread geographically across Singapore and according to population density. These centres would provide access terminals and personal assistance to those who do not have the means or ability to transact online with the Government. To date, Singapore has 28 CitizenConnect centres islandwide at accessible locations.

Through the CitizenConnect centres, a greater proportion of the public have now become more able and confident in using e-services. Based on the CitizenConnect centre on-site polls, about 90% of those polled have indicated that they would continue to use e-services given their positive experience at the centres. Ongoing reviews will be done to assess the adequacy of these centres to meet the objectives and citizens’ needs and locations may be further finetuned.

The Singapore government has also been leveraging the mobile channel to delivery services to its customers. Under the Mobile Government Programme, 150 m-services have been implemented. An additional 150 will be implemented in the coming year, bringing the total to 300 m-services. A common Short-
Message-Service (SMS) number 74688 (SGOV) and standard short code format was also introduced for all government SMS-based m-services so that customers need only to remember one number. In the pipeline is the development of a common authentication service (Mobile SingPass) that will allow personalised transactions to take place over the mobile phone.

To enhance service delivery, the government also adopts a multi-channel strategy. This is focusing on providing multiple electronic channels, as well as multiple access points to these electronic channels, in line with its overall philosophy of promoting electronic channel as the preferred channel. These channels and access points include internet e-service, mobile services, self-service kiosks/terminals, private sector intermediaries and CitizenConnect Centres. Other efforts such as providing affordable PCs also help to bridge the digital divide. For those less ICT savvy, manual channels such as counters and call centres are maintained.

2. Increasing Citizens’ Mindshare in e-Engagement

The government also seeks to focus its e-government efforts on bridging the digital divide and enhancing the dialogue between Government and citizens.

The REACH portal which stands for Reaching Everyone for Active Citizenry@Home has this goal in mind. The portal moves beyond one way feedback mechanisms by incorporating new media technologies such as blogs, discussion fora, online chats and short text messaging for productive and rewarding government-people exchange.

3. Enhancing Capacity and Synergy in Government

An Integrated Government is a means to the end - that of a high performance Government with Citizens and Customers as the central focus. Under this thrust, we seek to streamline Government operations through the exploitation of technology that creates greater sharing and less duplication. To this end, we are
constantly on the look out for innovative solutions that enhances the capability and capacity of public officers to deliver better programmes and policies.

Last year, the government completed the first set of ‘foundation piles’ on which to build an Integrated Government. These include identifying a set of common cross-government business functions and defining the standards for data, systems and technologies, collectively known as the Singapore Government Enterprise Architecture (SGEA). On top of this, a central infrastructure, the Government Web Services Exchange (GWS-X) has been setup to support and facilitate data and services sharing amongst agencies.

10 business functions (see Table 1) with the potential for greater process integration and inter-agency collaboration have also been identified. The idea is to fundamentally transform the operational models, legal & policy framework and processes of these functions with the help of ICT to bring about better outcomes for the government agencies involved and the customers that they serve.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Business functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Human Resources (HR) and Finance</td>
</tr>
<tr>
<td>2.</td>
<td>Grants &amp; Subsidies Assistance</td>
</tr>
<tr>
<td></td>
<td>- Grants Administration for Businesses</td>
</tr>
<tr>
<td></td>
<td>- Social Assistance Administration for individuals</td>
</tr>
<tr>
<td>3.</td>
<td>Productivity and Capability Development</td>
</tr>
<tr>
<td>4.</td>
<td>Enterprise Development</td>
</tr>
<tr>
<td>5.</td>
<td>License and Permits Issuance and Control</td>
</tr>
<tr>
<td>6.</td>
<td>Public Facilities &amp; Resources</td>
</tr>
<tr>
<td>7.</td>
<td>Data &amp; Statistics</td>
</tr>
<tr>
<td>8.</td>
<td>Urban Planning and Land Development</td>
</tr>
<tr>
<td>10.</td>
<td>Information Technology (IT) Services Management</td>
</tr>
</tbody>
</table>
Table 1: 10 potential business areas for inter-agency collaboration

For HR and Finance, common systems for the Statutory Boards are being developed. Tenders have been called and the systems are targeted for implementation by mid 2009. In the area of IT Services Management the project to rollout a Standard ICT Operating Environment (SOE) for whole-of-government will help bring together the management of IT services. The implementation of SOE will start in FY2008 and targeted for full roll-out by FY2010. For the other business functions, feasibility studies are in progress and study evaluations are targeted to conclude by end 2007.

4. Enhancing National Competitive Advantage
Singapore has a strong cluster of infocomm companies who have developed many sophisticated solutions for our public sector. In fact, some of these solutions have been exported overseas to the Middle East, East Asia and Africa regions. Singapore’s ICT industry not only has high standards of IT products, services and infrastructure from years of practice, the players are also equipped with expertise in areas such as intelligent systems, e-Government, financial services, business process outsourcing, IT outsourcing, wireless applications, telecommunications, games, animation and design.

With the set up of Singapore e-Government Leadership Centre (eGL) in Aug 2006 to provide public sector e-Government leadership education, more opportunities can be created to showcase Singapore’s iGov solutions and infocomm companies’ capabilities. Efforts will be spent on making eGL succeed as the first and top-of-mind recall of e-Government school in Asia, so that more audiences can be drawn to Singapore and be exposed to Singapore’s good iGov solutions and infocomm companies’ capabilities.

The Singapore Infocomm Development Authority has also partnered the
International Telecommunication Union to offer eGL training programme on ICT policy and telecom regulation. In July this year, a total of 35 senior officials from 11 countries came to study Singapore’s experience. It was also an opportunity for policy-makers to exchange their views on competition regulation and industry development.

**MOVING AHEAD – NEW INITIATIVES**

In the infocomm landscape where technology is constantly changing and with rising expectations of the citizens, there is a need to constantly revamp the government services that can best meet the needs of citizens and businesses. The upcoming initiatives and plans by the government are also categorized into the four strategic thrusts:

1. **Increasing Reach and Richness of e-Services**
   There are two pipeline projects for the coming year that aim to increase the reach and richness of government e-services.

   A. **eVoice**
   eVoice is positioned as an emerging eservice delivery channel which utilises the integration of speech recognition technology and knowledge query database/e-services to provide answers/transactions to customer enquiries via phone calls. The key benefit for customers is the improved customers’ experience when interacting with the government. With eVoice, customers who opt to call will be able to get their answers anytime of the day, especially after office hours where no helpdesk personnel is available to entertain the phone calls. eVoice complements the Internet channel for customers who wants to self-help but are unable to go online. IDA is embarking on 2 pilot implementations which are scheduled for completion by end March 07.
B. Interactive TV
There is a plan to deliver government contents and e-services via the interactive TV channel. The two main objectives are to leverage on the new multimedia channel to share relevant government contents with our citizens, while at the same time be able to connect and interact with our citizens for their feedback. Create new opportunity to reach out to those non-IT savvy populations (i.e. senior citizens, housewives, kids, disabled...etc) who are more accustomed to use TV than computers to access government information. IDA will be collaborating with selective local town councils (for government information) and private sector companies (for IPTV systems, broadband and subscriptions) to conduct a pilot trial by September 07.

2. Increasing Citizens’ Minshare in e-Engagement
Singapore has a two-prong approach that addresses the demand for and delivery of e-engagement efforts:

A. Citizens must first be aware that there are avenues for feedback, including the electronic channels, regardless of whether they use these channels. When citizens are aware of the electronic channels, further efforts can then be invested on attracting participation to these efforts.

B. Government agencies have the responsibility to deliver clear and useful information on Government policies and programmes as this is a pre-requisite for meaningful exchanges of views on these policies and programmes to take place.

With this in mind, the whole-of-government portal (www.gov.sg) will be transformed from just an amalgamation of links to the Cyberface of the Singapore Government – the authoritative door to members of the public on Singapore Government Content in cyberspace – the one channel for feedback to government, the one directory to all government agencies, one calendar to all government events, one source of all government press releases, and an e-Concierge service to provide “butler service” to consumers who need to transact
but not sure where to go. The capabilities of www.gov.sg will also be extended such that customers could find the relevant government information or use government e-services at their preferred portal (e.g. Google or Yahoo). Even with the Cyberface of the Singapore Government established, there is still a need for an effective way for customers to search and find information relevant to them. Therefore, another key area we are working on is to improve the relevancy of search results across all Government websites. The first stage has been to enhance the existing search engine with the standardisation of our web information and e-services along the Singapore Government Metadata Standard (SGMS). Moving forward, we target to further enhance the search capability and performance by leveraging commercial search engines like Google, etc.

In addition to the above initiatives, there will also be more efforts made to raise the awareness amongst citizens on the availability of electronic channels to provide feedback to Government. Pilots and trials on the use of social collaboration tools such as Blogging, Discussion Forums, Podcasts to attract and engage citizens’ to participate in more online public consultation and feedback will be conducted.

3. Enhancing Capacity and Synergy in Government

To facilitate exchange amongst public officers and allow them to tap on the collective capacity and capability within the whole-public sector, innovative collaboration tools such as wikis, blogs and discussion forums that have been popularised in recent years would be brought into the government sector for public officers to experiment in a safe and secure environment. An enhanced Government Intranet that provides common information and services through a consistent look-and-feel would also be developed to shorten learning curves and help officers become effective quickly. The corporate culture would be critical in making this a success, and government agencies are committed to work together to engage the public officers in this effort.
4. Enhancing National Competitive Advantage

Our strategy for e-Government also includes development of the local infocomm industry. These companies have developed many tried-and-tested e-government solutions over the years. With their track record of helping to build Singapore’s e-Government system, the Singapore infocomm sector is ready to explore opportunities in the global market. Today, many of Singapore’s e-Government solutions have already been exported and adopted in diverse markets such as Middle East, East Asia and Africa.

In January 2007, the Infocomm Enterprise Programme (iEP) was launched and it was aimed at developing the capabilities of iLEs in the implementation and delivery of large-scale, sector-wide projects and to create new intellectual property (IP). This programme is managed by the Infocomm Development Authority of Singapore and it will help co-fund approved projects and in the facilitation and marketing assistance to overseas markets.

CONCLUSION

Singapore has made much progress in the first year of iGov2010 and there are more exciting plans in the pipeline. Even as the government agencies provide citizens and businesses with more services that can improve their lifestyles, even more critical will be agencies’ efforts for moving Singapore closer to the vision of an integrated government. The next lap in Singapore's e-Government journey demands an adoption of a whole-of-government approach, and the need to work across agency lines, in collaboration with the private and people sectors. This ultimate goal is to realise the vision of an Integrated Government - a one-stop, non-stop government at its best.
Annex A: Singapore’s e-Government Plans

iGov2010 (2006-2010)
iGov2010 is the Singapore Government’s five-year masterplan that leverages infocomm to further delight our customers and citizens. To achieve this vision, four thrusts have been identified: Increasing Reach and Richness of e-Services; Increasing Citizens’ Mindshare in e-Engagement; Enhancing the Capacity and Synergy in Government; and Enhancing the National Competitive Advantage.

Building on earlier efforts in the first e-Government Action Plan, eGAP II aimed to achieve the three distinct outcomes of Delighted Customers, Connected Citizens and a Networked Government. Specifically the focus was to deliver accessible, integrated and value-adding public services to our customers; and help bring citizens closer together.

eGAP was conceived to fulfill the vision of making Singapore one of the leading e-Governments in the world. Six strategic programmes were defined, namely: Electronic Services Delivery; Knowledge-based Workplace; Technology Experimentation; Operational Efficiency Improvement; Adaptive and Robust Infocomm Infrastructure; and Infocomm Education.

Civil Service Computerisation Programme (1980-1999)
The Civil Service Computerisation Programme initially started with the focus on improving public administration through the effective use of infocomm technology. This involved automating work functions and reducing paperwork for greater internal operational efficiencies. Over time, this evolved into the provision of one-stop services where government systems were extended to the private sector in implementations like TradeNet, MediNet and LawNet. Then in early 1990s, emphasis shifted towards the consolidation of computing resources in the form of a shared data centre and a civil service-wide network.