

**Brunei Darussalam Public Sector  
Journey Towards E-Government**

**BRUNEI  
DARUSSALAM**

**COUNTRY PAPER**

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## 1.0 Introduction

The main theme of this paper is that e-Government can, when efficiently and purposefully implemented, be an enabling tool in creating opportunities for National Development and public sector modernisation. This country paper provides a review of ICT development in the Brunei Civil Service under the e-Government program. It will also touch upon the reforms and programmes in place or planned to achieve the vision of a 21<sup>st</sup> century civil service.

In 2000, His Majesty Sultan Haji Hassanal Bolkiah expressed his view for establishing e-Brunei, aimed at a paperless society by guiding Brunei into the mainstream of global Information Technology. Efforts to establish e-Government and e-Business were highlighted with the aim of developing Brunei's services beyond its reliance on oil and gas reserves. The Brunei Darussalam Economic Council (BDEC) report has further reinforced Information Communication Technology (ICT) as an element to diversify the economy away from its traditional dependence on oil and gas<sup>1</sup>.

Since His Majesty's expressed view, the Government of Brunei has taken a highly proactive and concentrated role in development of the ICT sector, with ICT taking key position in the modernisation of the Brunei Government's provision of public services<sup>2</sup>. The utilisation of ICT and specifically, the Internet, provides the opportunity for Brunei to develop a wide range of e-Government strategies, plans and initiatives. Its ability to promote efficiency in the workforce, better and quicker delivery of services and heightened access for all authorised users to shared information is coupled with a higher degree of accountability to the public<sup>3</sup>. ICT-related programmes aim to open up new opportunities, contribute to growth, employment and innovation and to advance the nation into a state of global competitiveness in a Global Digital Economy.

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<sup>1</sup> See [http://www.e-Government.gov.bn/archives/press/july2002/ICT\\_industry\\_through\\_e-Government.htm](http://www.e-Government.gov.bn/archives/press/july2002/ICT_industry_through_e-Government.htm)

<sup>2</sup> Department of Faculty of Business Economic and Public Studies 2001 paper, UBD

<sup>3</sup> Benefits of ICT's can be seen in <http://www.fgtk.informatik.uni-bremen.de/cost/workprog.html>

## **2.0 ICT Diffusion and Development in Brunei**

The Government of His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam, like other ASEAN and developing countries, has long realised that an efficient and effective public administration system is essential to the achievement of national development goals and objectives<sup>4</sup>. This realisation was put to practice as far back as the 1970s when computerisation of the civil service commenced. The computerization initiatives were relatively ad hoc up to early 1990s.

In 1993, the various computer units in key government agencies from the Ministry of Finance notably the Brunei Investment Agency, Treasury and Economic Planning Unit were combined to become the Computer Division under the Ministry of Finance.

In 1995, the Information Technology Programme or Teknologi Maklumat (TEMA) was introduced for the civil service. It aimed to raise IT usage and awareness, promoting planned IT programmes for various ministries and improve service levels to the citizens.

In January 1996, the Information Technology Section in the Ministry of Finance was merged with the State Stores Department and upgraded into a department, now known as the Department of Information Technology and State Stores (ITSS)<sup>5</sup>.

In 1997, a national IT strategic planning framework was formulated and the first National IT Strategic Plan took off starting in 2000.

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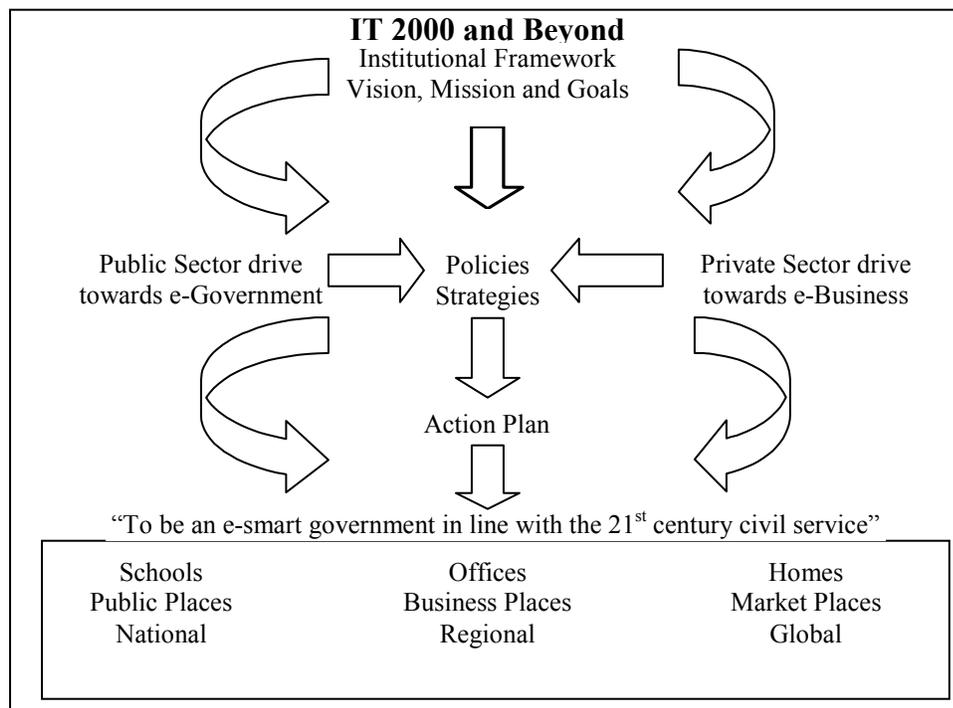
<sup>4</sup> As extracted from the Compilation of Country and Technical Paper of Sixth ACCSM (September 1991) at pg 1

<sup>5</sup> As per the 8<sup>th</sup> National Development Plan, pg 141

### 3.0 IT 2000 and Beyond

The National Strategic IT Plan, **IT 2000 and Beyond**, aims to promote effective application of IT in the public and private sectors, raising the level of IT literacy, and ensuring supply of IT skilled manpower to fuel growth. The plan highlights three core strategies in creating a paperless society with the result of paperless governance and services through utilisation of multimedia technologies to conduct of information/data exchange. It also targets the introduction of electronic government through better training programs and IT coordination as well as creating better incentives for IT adoption and e-Business deployment in the public sector.

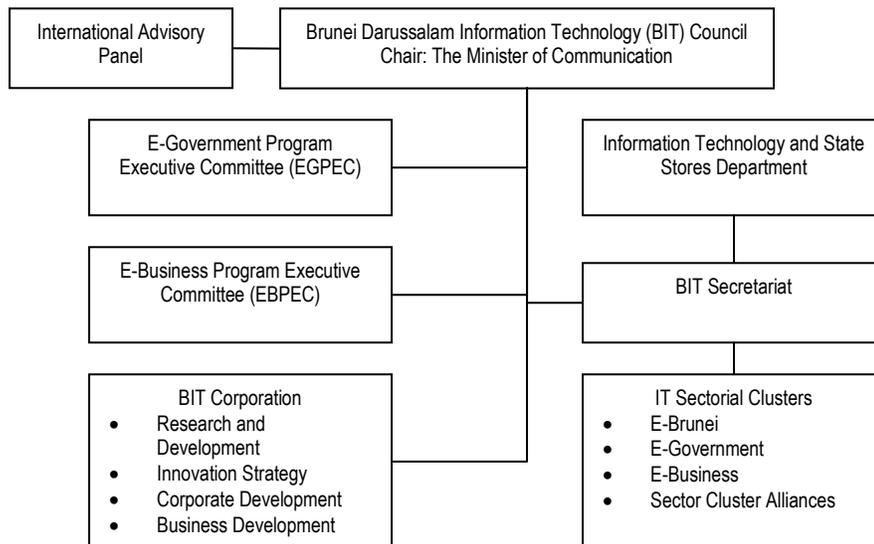
The three core strategies identified in the Brunei Vision of “**IT 2000 and beyond**” plan are interrelated as shown below.



**“Brunei Darussalam through its National IT Council aims to lead and facilitate the strategic development and diffusion of the State-of-the-art for the entire nation”**

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The Brunei Darussalam Information Technology Council (BIT Council)<sup>6</sup> was established in 2000 to spearhead and provide guidance on the implementation of the National IT Strategic Plan. Through the BIT Council, the Government aims to lead and facilitate the strategic development and diffusion of state-of-the-art IT for the entire nation. It is chaired by the Minister of Communication and is made up of representatives from the government, the private sector, IT sector, academia and community representatives. To achieve its overall mission, the BIT Council established ten goals that covered such areas as: Leadership, needs, IT literacy, manpower, applications, Research and Development, Links, economy, business and relevance.



**BIT Council and Supporting Agencies**

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<sup>6</sup> See diagram at pg 6 above; section 3.0 BIT Council and Supporting Agencies

The EGPEC or E-Government Program Executive Committee<sup>7</sup>, an affiliate of the BIT Council, prioritises and implements e-Government initiatives, including appraisal, studies and further proposals of steps in implementation of e-Government program. This is thought to provide the impetus to advance IT diffusion in the public service and advance development of e-related services and activities presently undertaken by the Government ministries.

The EBPEC or E-Business Program Executive Committee<sup>8</sup> an affiliate of the BIT Council, focuses on commerce rather than government. The members of the EBPEC consist of recognised IT leaders and representatives from private sector, academia and civil service. It is tasked to coordinate IT application drives of the private and public sector, identifying linkage-building strategic opportunities for local IT businesses with others as well as directing the necessary assistance to the private IT sector.

The Department of Information Technology and State Stores is the Secretariat for the BIT Council, EGPEC and EBPEC. The BIT Secretariat<sup>9</sup> role is to support the activities of the BIT Council, monitors the implementation of the National Strategic IT Plan, spearheads the formulation and implementation of the national IT policy and plans, nurtures alliances with ICT clusters and appropriate organisations, and manages corporate communications and publicity.

All the parties above played key roles in the development of the national ICT programme in Brunei Darussalam and share a common aim: to move Brunei towards paperless governance and services, through the use of multimedia technologies for information/data exchange, with public sector drive towards e-Government and a private sector drive towards e-Business programmes.

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<sup>7</sup> See diagram at pg 4 above; section 3.0 BIT Council and Supporting Agencies

<sup>8</sup> See diagram at pg 4 above; section 3.0 BIT Council and Supporting Agencies

<sup>9</sup> See diagram at pg 4 above; section 3.0 BIT Council and Supporting Agencies

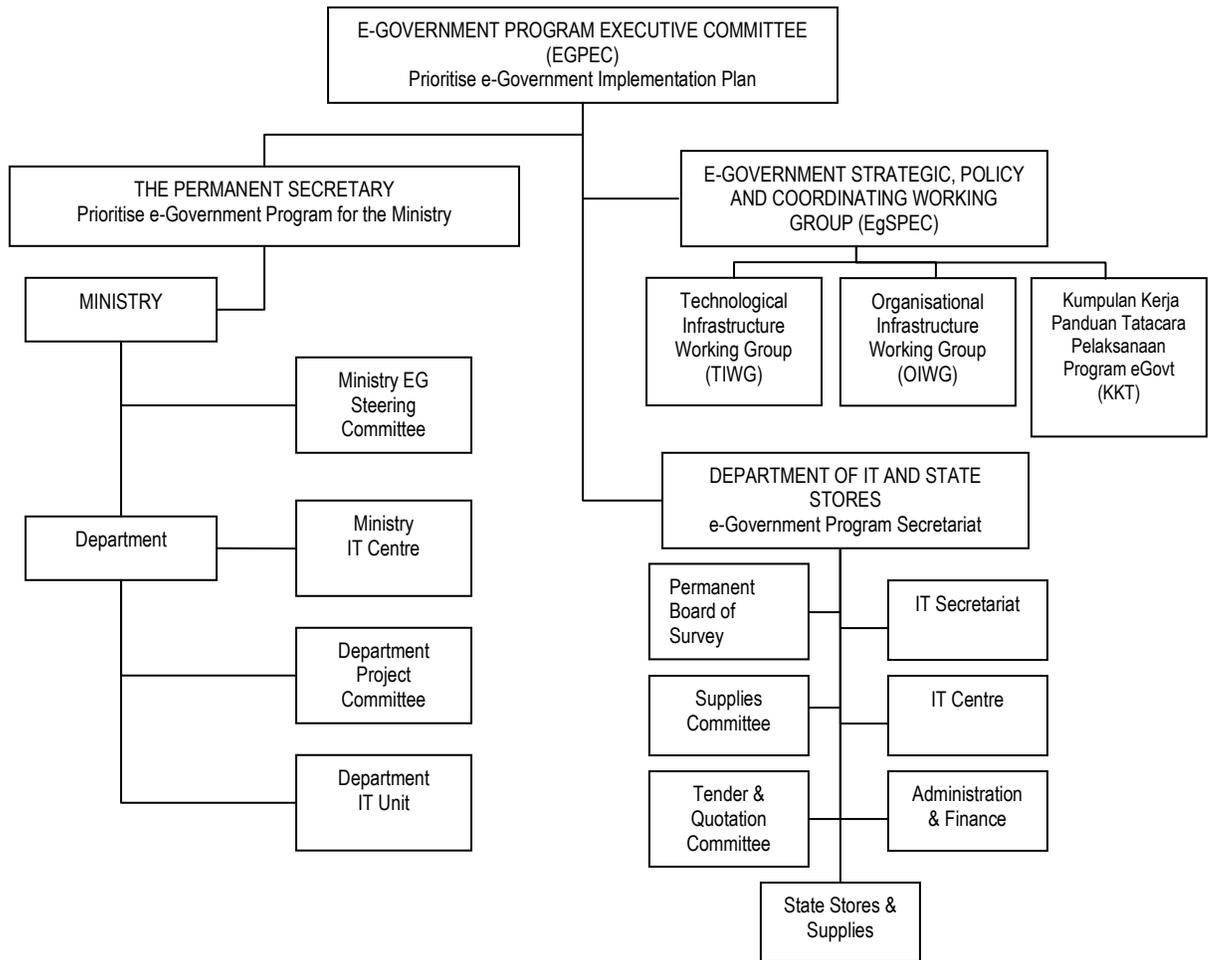
## 4.0 e-Government

The implementation of e-Government into the Brunei Civil Service is an initiative taken by the government of His Majesty to improve the efficiency and effectiveness of its services. This matter was highlighted in His Majesty's 55<sup>th</sup> Birthday Anniversary speech whereby His Majesty announced the setting up of a national committee to assist in the implementation of action plans as a way to introduce e-Government into the country. The key message which the Government seeks to deliver and follow is **“EG21 Governance and Services Online”** with its vision of the public sector services being **“an e-smart Government in line with the 21<sup>st</sup> century civil service vision”**.

The focus and attention accorded to the ICT industry was reflected for the first time in the Chapter IX of the 8<sup>th</sup> National Development Plan 2001-2005. The Government's seriousness in consideration of ICT has seen an initial allocation of \$526 million of the National Development Plan being increased to nearly \$1 billion for the development and implementation of infrastructure for the e-Government initiative to apply information technology to the daily working operations of government by creating a world-class physical and information infrastructure, which would serve as the backbone of Brunei's information superhighway.

The e-Government initiative will expand the breath and depth of the ICT industry in Brunei from merely piecemeal projects addressing vertical needs, to multi-million dollar projects, which address the horizontal needs of the government. To this end, the Government has forecast 2005 as a target for full implementation of the electronic Government.

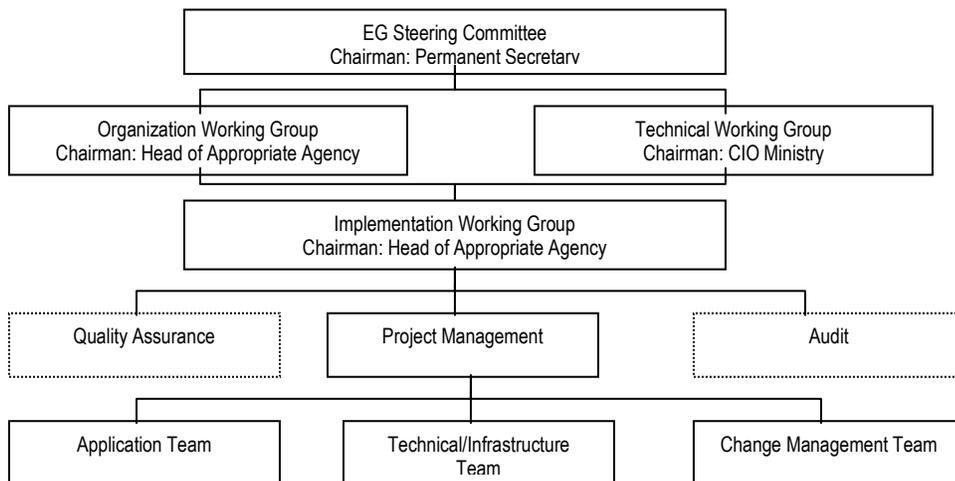
The figure below represents the current **e-Government Organisation Structure**.



E-Government Program Implementing Agency

E-Government Program Appraisal Agency

### E-Government Ministerial Implementation Organisational Structure



Other than the EGPEC mentioned earlier, the following committees also played key roles in the development of the e-Government programmes in Brunei Darussalam:

The EgSPEC or the E-Government Strategic, Policy and Coordinating Group<sup>10</sup> is established to assist the EGPEC in leading the drive to get the Brunei Government on-line, including among others developing and managing the e-government strategy, identifying policy and regulatory requirements and ensuring compliance to such policies and standards as set by the EGPEC. This group also proposed priorities relating to ICT policies and programmes, identifying dependencies and commonalities between existing and proposed information systems, providing coordination for multi-agency e-government projects, monitoring progress towards achieving the e-government vision and providing e-government policy advice to EGPEC. EgSPEC membership is limited to a small core group of senior officials with multi-disciplinary expertise led by the Deputy Permanent Secretary of the Prime Minister's Office.

The TIWG or Technological Infrastructure Working Group<sup>11</sup> is established to assist EgSPEC in reviewing and recommending the e-Government technological infrastructure such as the establishment of an open architecture framework on computing, communications and networking platforms including policies and standards for best practices. This group also review and recommend among others the deployment of net-centric connectivity for all ministries and departments, setting up the Government Network and Data Operation, Network Planning, and establishment of the Public Key Infrastructure and Digital Signatures. The TIWG membership is limited to a small core group of senior officials with technical and IT expertise

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<sup>10</sup> See diagram at pg 7 above; section 4.0 e-Government Organisations Structure

<sup>11</sup> See diagram at pg 7 above; section 4.0 e-Government Organisations Structure

The OIWG or Organisational Infrastructure Working Group<sup>12</sup> is established also to assist EgSPEC in reviewing and recommending the e-Government Organisational Infrastructure such as the establishment of IT Centre in all Ministries and IT Unit in all departments including the manpower requirement. This group also among others review and make recommendation for change of policy, procedures, regulations and legal where appropriate relating to HRM/HRD needs, implementation of IT scheme of services and implementation of the annual IT performance review on Government agencies. The OIWG membership is also limited to a small core group of senior officials with multi-disciplinary expertise.

The KKT or Kumpulan Kerja Panduan Tatacara Pelaksanaan Program e-Government<sup>13</sup> was formed by EgSPEC to develop the procedural guidelines on implementation of e-Government projects. The group is chaired by the Senior Counsel from the Attorney General Chambers with the members comprising of officials from the Attorney General Chambers, IT Secretariat, Department of Economic Planning and Development and Department of Internal Security.

At the ministerial level, the key e-Government implementation organisational structure consists of the Ministerial e-Government Steering Committee<sup>14</sup> chaired by the Permanent Secretary. This committee focuses on evaluating, advising and recommending policies for smooth implementation and operation of the e-Government strategic initiatives, prioritise and approve rollout programs, coordinate, monitor and ensure project performance quality meet contractual obligation and in accordance to Government regulations and policy requirements.

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<sup>12</sup> See diagram at pg 7 above; section 4.0 e-Government Organisations Structure

<sup>13</sup> See diagram at pg 7 above; section 4.0 e-Government Organisations Structure

<sup>14</sup> See diagram at pg 7 above; section 4.0 e-Government Ministerial Implementation Organisational Structure

The OWG or Organizational Working Group<sup>15</sup> functions as an expert group on organisational matters (policy, regulations, procedures and business processes). The group focuses on reviewing and recommending appropriate changes on organisational matters, ensuring project deliverables conform to organisational policy and regulations, facilitating business process re-engineering and change management.

The TWG or Technical Working Group<sup>16</sup> functions as an expert group on technical requirements (IT and telecommunication infrastructure and interoperability framework). The group focuses on ensuring project implemented according to scope of work, schedule and budget, advising on the effectiveness of the existing and new IT and telecommunication infrastructure, reviewing and recommending relevant and appropriate changes in the technical requirements, examining, advising and suggesting measures for establishment and facilitation of linkages and integration with other agencies applications.

The IWG or Implementation Working Group<sup>17</sup> facilitates decisions on matters pertaining to the project implementation. The group focuses on finalising tender document, tender evaluation and contract, deciding on resolution of design, implementation and contractual issues, approval of project deliverables, reporting to the Steering Committee on project performance and outstanding strategic issues to be resolved and to be the focal point for project management.

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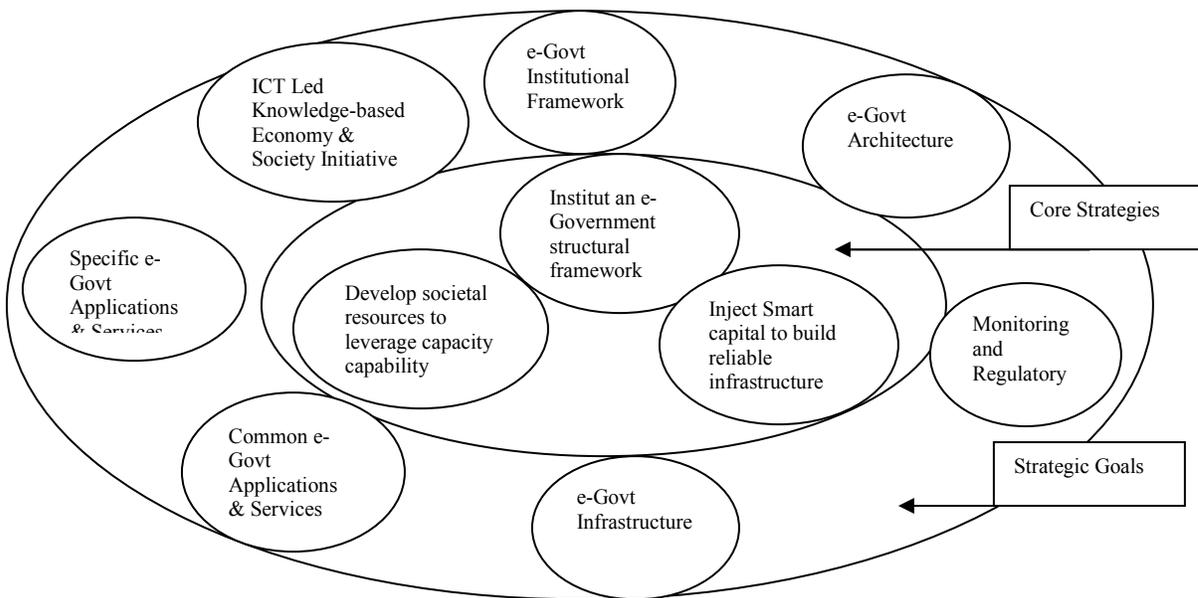
<sup>15</sup> See diagram at pg 7 above; section 4.0 e-Government Ministerial Implementation Organisational Structure

<sup>16</sup> See diagram at pg 7 above; section 4.0 e-Government Ministerial Implementation Organisational Structure

<sup>17</sup> See diagram at pg 7 above; section 4.0 e-Government Ministerial Implementation Organisational Structure

There are three core strategies. The core strategies are harmonize with the proposed e-Brunei and the **IT2000 and Beyond** plan, i.e. the national IT Strategic Plan, to drive the Public Sector towards Electronic Government along with other major thrusts to drive the Paperless Society and the Private Sector towards Electronic Commerce.

Firstly, the e-Government structural framework is instituted to realise and sustain bona fide outcomes through development of the institutional infrastructure and putting monitoring and regulatory mechanisms in place. The second core strategy concerns injecting smart capital to build reliable e-Government infrastructure, and common and specific e-Government applications and services. The third developmental stage relates to societal resources to leverage capacity, capability and innovation at the forefront of an ICT-led economy.



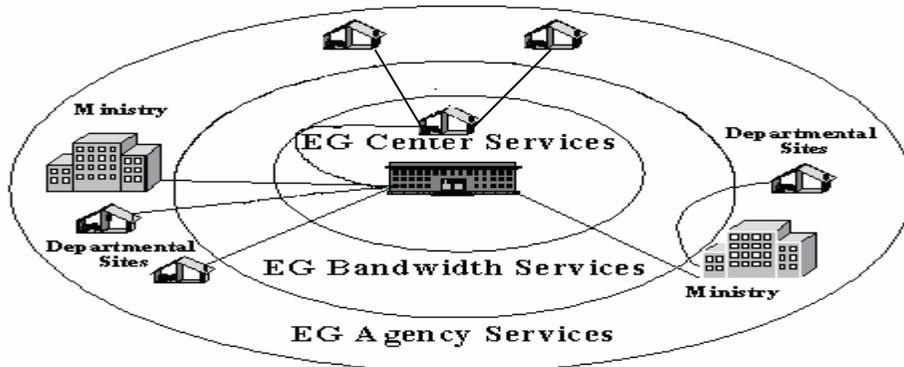
**BIT Council Core Strategies and Strategic Goals**

Core strategies and the strategic goals in realising e-Government are summarised in the following table.

<b>Core Strategy #1: Institute E-Government Structural Framework to Realise and Sustain Bona Fide Outcomes</b>	
<b>Goal 1:</b> Institutional Infrastructure	<ul style="list-style-type: none"> <li><input type="checkbox"/> establish the e-Government Executive Committee, including its secretariat, to approve the e-Government plans of action</li> <li><input type="checkbox"/> establish the Brunei Darussalam IT Center (EG Center)</li> <li><input type="checkbox"/> establish IT Center in all Ministries and IT unit organisation in all departments</li> </ul>
<b>Goal 2:</b> e-Government Architecture	<ul style="list-style-type: none"> <li><input type="checkbox"/> on going review and change policy, procedures, regulations and legal where appropriate relating to HRM/HRD and Financial needs</li> <li><input type="checkbox"/> e-Government security and legal framework</li> <li><input type="checkbox"/> open architecture framework communication, networking and computing platform</li> <li><input type="checkbox"/> appraisal, investment, financing, funding and fast track procurement</li> <li><input type="checkbox"/> implement IT scheme of services</li> <li><input type="checkbox"/> staff changeover scheme for non-IT posts</li> </ul>
<b>Goal 3:</b> Monitoring and Regulatory Mechanism	<ul style="list-style-type: none"> <li><input type="checkbox"/> on-going monitor and regulate service operators</li> <li><input type="checkbox"/> on-going annual IT performance review on government agencies</li> </ul>
<b>Core Strategy #2: Inject Smart Capital to Build Reliable Infrastructure and Accessible Content</b>	
<b>Goal 4:</b> e-Government Infrastructure	<ul style="list-style-type: none"> <li><input type="checkbox"/> net-centric connectivity for all ministries and departments</li> <li><input type="checkbox"/> net-centric systems with intranet and extranet facilities</li> </ul>
<b>Goal 5:</b> Common e-Government Application and Services	<ul style="list-style-type: none"> <li><input type="checkbox"/> set-up the government network and data operation</li> <li><input type="checkbox"/> set-up Network administration, helpdesk services, e-mail services, government official site and e-Government portals</li> <li><input type="checkbox"/> Public key infrastructure and digital signature</li> <li><input type="checkbox"/> Deploy disaster recovery services, emergency response services, data warehousing services and common application</li> </ul>
<b>Goal 6:</b> Specific e-Government Application and Services	<ul style="list-style-type: none"> <li><input type="checkbox"/> Treasury Accounting and Financial Information System (TAFIS)</li> <li><input type="checkbox"/> Human Resource Management including labour and training exchange</li> <li><input type="checkbox"/> Multipurpose Smart card, Mukim.Net, EG Bandwidth, Eco Cyber Park, e-Education, e-Health</li> <li><input type="checkbox"/> Agency specific Intranet/Extranet application and services</li> </ul>
<b>Core Strategy #3: Develop Societal Resource to Leverage Capacity and Innovation at the Front of the ICT-Led Economy</b>	
<b>Goal 7:</b> Knowledge based Economy and Society Initiatives	<ul style="list-style-type: none"> <li><input type="checkbox"/> marketing information society</li> <li><input type="checkbox"/> establish IT training for civil services inclusive of computer based training (CBT) and e-learning by EG-Center</li> <li><input type="checkbox"/> IT skill for all programme by MOE</li> <li><input type="checkbox"/> establish cyber park by MOC</li> <li><input type="checkbox"/> establish National Network of Information and Knowledge based society initiatives local support center by MIPR</li> <li><input type="checkbox"/> establish local electronic multimedia center/kiosk by MOC</li> </ul>

## 5.0 E-Government Blueprint

An EG Value Chain Implementation Blueprint has been developed to provide effective alternatives for supporting the government ministries and agencies in their e-Government projects. The services framework outlined in this blueprint comprises three areas: the EG Center, EG Bandwidth and EG Agency.



### e-Government Value Chain Implementation

The EG Center Services will be managed by Department of Information Technology and State Stores. It is designed for the common services such as hosting co-location facilities, facility management, data center, disaster recovery center, network operation center, service operation center inclusive of certification authority, e-mail services, portals, website customisation, gateway and common business services.

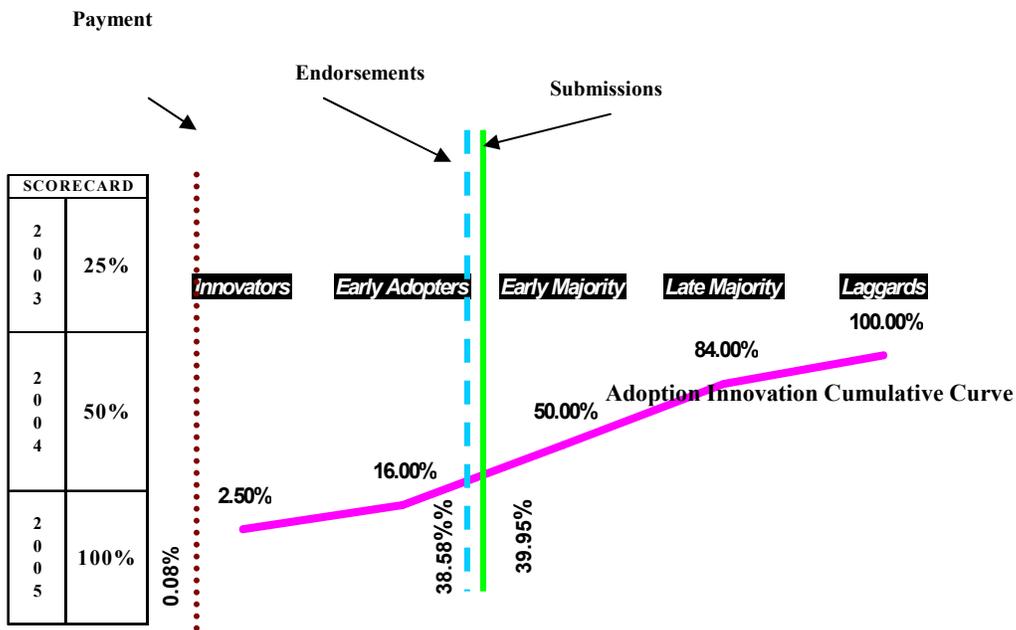
The EG Bandwidth Services will be managed by the Ministry of Communication. The EG bandwidth is a Government-Wide Intranet, that will supports scalable, secure and reliable info-communication infrastructure to deliver web-enabled e-Government services to its citizens and employees. It will provide outsourcing of broadband network connectivity up to the routers and switches.

The EG Agency Services provides the option for ministry or department users to host their IT center at their own premises or hosted by EG center. There services offered include outsourcing application, multi channel access devices, agency infrastructure, common office environment tool, manpower, training, architecture framework, marketing and quality assurance.

## 6.0 Present Status

In pursuit of fulfilling these aims, the Government is heading in the right direction with various electronic projects currently being tendered out and the Government Civil Service Infrastructure is being revamped. Ministries and departments are encouraged to be more involved with, and take initiative in, the development of e-Government by creating their own “flagship” programs and business plans. The table below shows the e-Government program 2001-2005 scorecards by each Ministry as of October 2003.

E-GOVERNMENT PROGRAMS 2001-2005 SCORECARDS BY EACH MINISTRY AS OF OCT 2003



The table below shows for specific ministry, its flagship programs and the status of the development of their respective EG Centre services, EG Bandwidth services and EG Agency services.

<b>Ministry Flagship Programs</b>		
<b>Ministry</b>	<b>Program</b>	<b>Status</b>
<b>Prime Minister Office</b>	<ol style="list-style-type: none"> <li>1. EG Implementation Workshop</li> <li>2. Prime Minister's Office Enterprise Data Centre and Network Infrastructure (PMONet)</li> <li>3. Trademark and Patent System</li> <li>4. RTB Newsroom Computerisation Project</li> <li>5. Police Advanced Record Management System</li> <li>6. Human Resources Management System (HRMS)</li> <li>7. EG IT Training &amp; Skill Development</li> </ol>	Implementation Tender Process  Tender Process Tender Process Tender Process Tender Process Tender Process
<b>Ministry of Defence</b>	<ol style="list-style-type: none"> <li>1. Defence Infrastructure Project</li> <li>2. Defence e-Procurement</li> <li>3. Defence Human Resource Management</li> </ol>	Tender Process Tender Process Tender Process
<b>Ministry of Finance</b>	<ol style="list-style-type: none"> <li>1. TAFIS</li> <li>2. Ministry of Finance Centre</li> <li>3. MOF Bandwidth</li> <li>4. EG Center</li> <li>5. Lexis Nexis e-Knowledge Gateway</li> </ol>	Implementation Tender Process Tender Process Tender Process Tender Process
<b>Ministry of Foreign Affairs</b>	<ol style="list-style-type: none"> <li>1. Network Infrastructure (MFANet)</li> <li>2. e-Office (MFAeo)</li> <li>3. Information System (MFAis)</li> <li>4. Capacity Building</li> </ol>	Tender Process Tender Process Tender Process Tender Process
<b>Ministry of Home Affairs</b>	<ol style="list-style-type: none"> <li>1. Multi Purpose Smart Card (MSC)</li> <li>2. Mukim.Net</li> </ol>	Tender Process Tender Process
<b>Ministry of Education</b>	<ol style="list-style-type: none"> <li>1. Edunet</li> <li>2. e-Learning</li> <li>3. Education Information System (EIS)</li> <li>4. Digital Library</li> <li>5. Human Capacity Building</li> </ol>	Tender Process Tender Process Tender Process Tender Process Tender Process
<b>Ministry of Industry and Primary Resources</b>	<ol style="list-style-type: none"> <li>1. MIPR Phase 1 – Infrastructure including IT Center, Local Area Network and Connectivity Project</li> </ol>	Tender Process
<b>Ministry of Religious Affairs</b>	<ol style="list-style-type: none"> <li>1. Network Infrastructure Project (PPR)</li> <li>2. Zakat Management System</li> <li>3. e-Islamic Information project</li> <li>4. Islamic Information System</li> </ol>	Tender Process Tender Process Tender Process Tender Process
<b>Ministry of Development</b>	<ol style="list-style-type: none"> <li>1. Data Center and Network Infrastructure and Services for MOD</li> <li>2. Electronic Map Information System (e-MAP)</li> <li>3. Project Management Information System Enterprise (PROMISE).</li> </ol>	Tender Process  Tender Process Tender Process
<b>Ministry Youth and Sports</b>	<ol style="list-style-type: none"> <li>1. e-Heritage</li> </ol>	Planning
<b>Ministry of Health</b>	<ol style="list-style-type: none"> <li>1. Picture Archiving Communication System</li> <li>2. e-Health Consultancy Services</li> </ol>	Tender Process Tender Process
<b>Ministry of Communication</b>	<ol style="list-style-type: none"> <li>1. e-LATIS</li> <li>2. e-MINCOM</li> <li>3. EG Bandwidth</li> </ol>	Implementation Tender Process Tender Process

Note: Stages of Tender Process – Endorsed, Document Preparation, Advertisement, Evaluation, Selection and Award.

## **7.0 Other ICT led Infrastructure**

The Government of Brunei Darussalam has invested heavily in building its National Information Infrastructure as its one of the key priority areas in the implementation of the e-Government program<sup>18</sup> as well as to keep pace with the needs of the nation. In the Communication Sector, Brunei has established a nationwide broadband network called RAGAM 21. RAGAM is the acronym for Rangkaian Global Aliran Multimedia (Global Multimedia Network System 21), meaning 'interconnecting the network to the global multimedia infrastructure'. The availability of high bandwidth and high performance network infrastructure effectively enables the economy to prepare for the new age of global multimedia network.

Building upon the RAGAM 21 infrastructure, the Government has embarked on the EG bandwidth project. The aim of this EG bandwidth project is to provide the last mile connectivity to the Government premises. It is a Government-Wide Intranet, which will supports scalable, secure and reliable info-communication infrastructure to deliver web-enabled e-Government services to its citizens and employees.

Concurrently, new laws based on international practices have been enacted. This included the formation of the Authority for Information and Communications Technology Industry (AiTi) under the Authority for Information and Communications Technology Industry Order 2001, an independent statutory body responsible for regulating and developing the ICT industry in Brunei Darussalam.

Other legal changes included enactment of the Trade Marks Act and Copyright Act, the Computer Misuse Order, the Electronic Transactions Order 2000, the Patent Order 2000, Evidence Act to accept "computer evidence", the Class License Notification and Internet Code of Practices.

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<sup>18</sup> [http://www.apectelwg.org/apecdata/telwg/23tel/pelnary/plen\\_21.htm](http://www.apectelwg.org/apecdata/telwg/23tel/pelnary/plen_21.htm)

## **8.0 e-Government Change Impacts**

With e-Government, impact changes are categorised in three areas.

### **Impacts on People**

- ❑ Increased citizens expectations
- ❑ Visibility of outcomes of Government program
- ❑ Raised citizens awareness of a knowledge society prerequisites

### **Impacts on Processes**

- ❑ Streamlined processes driven by focus on customer service delivery
- ❑ Increased use of online information for decision making and approvals
- ❑ Integrated processes that deliver end-to-end capabilities

### **Impacts on Organisation**

- ❑ Increased awareness of ICT benefits and costs
- ❑ Focus and committed senior management for ICT projects
- ❑ Greater accountability for ICT spending and outcomes

## **9.0 Challenges in implementing nation wide e-Government**

The Government's determination to transform the delivery of its services and e-Government is fundamental to achieving success. The formation of an e-Government programme in the national policy agenda is all about changes towards the quality of governance as well as service delivery in line with 21<sup>st</sup> century Civil Service Vision for Brunei Darussalam.

The success of implementation of the e-Government Programme into the Brunei civil service as a massive national agenda item depends heavily on the commitment and collaboration of the Civil Service as a whole. It also depends greatly on what challenges<sup>19</sup> are anticipated and how all challenges, whether anticipated or not, are met.

In the early days of e-Government development, the Government tried suggesting projects for each Ministry to do instead of allowing each Ministry to come up with their own project. However, this method did not lead to real ownership of the projects. There was lack of accountability for the projects and issues of abdication of responsibilities were faced. As a result, the Government has decided to allow each Ministry to come up with their flagship projects and business plans.

Flagship projects are each presently handled by its own Ministry and this allows greater involvement of officials in each Ministry and its departments. There would be a higher level of idea input and each system would be tailor-made to take account of any business needs of the Ministry. This ensures more accurate and relevant system for use within the Ministry department. Commitment, cooperation, time and innovation are required from all parties involved in the implementation of e-Government.

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<sup>19</sup> For more detailed view on potential challenges to be faced, see "Driving the ICT Industry through e-Government" by Mohd Reeda Malik, Asia Inc, July 2002 ed.

To this end, the time expended on each ministry's project has the effect of engendering a feeling of greater ownership on the e-Government project and working towards the same goal of e-governance would create a feeling of unity within each Ministry and between all Ministry departments.

Another challenge being faced is in the changes caused to the Civil Service sector due to the e-Government programme and development of the e-Government infrastructure. By being the prime "mover" in Brunei Darussalam's development programmes, civil servants are expected to be able to cope with and manage the challenges ahead. Major challenges lie in the need for the Civil Service to transform itself from its traditional role to a more supportive and catalytic role in the wake of growing regional as well as international competition and emerging domestic resource constraint.

Presently, the civil service comprises of 12 ministries and approximately 38,000 civil servants. The ongoing ICT programmes and work will require the development of IT literacy among all 38,000 employees and will affect all the ministries and departments. It is therefore vital that there is timely-coordination and cooperation between all ministries, departments and employees to ensure that the ICT are implemented as scheduled.

The ability of the Government to adapt to this change in infrastructure and the dexterity with which it can become a leading user in this field of ICT relies upon good project management, well-planned coordination between ministries and for all government employees, from top to bottom, to undergo an IT culture change and expend time for training.

It is generally agreed that many of the challenges relate to people rather than technology. This was described in current and future challenges outlined in the preceding paragraphs. The ability to change mindsets, and consequently behaviours, is a key success factor.

Another factor that requires consideration lies in the human resource sector. The Government has realised the need to develop professionals able to service the ICT industry. This need necessitated the Government introducing ICT infrastructure into the education systems. An e-Education Roadmap has been formulated to the Ministry of Education which will drive the e-Education programmes on EDUNET, e-Learning, Education Information System (EIS), Digital Library and Human and Capacity Building to address the potential lack of 'human capital' by exposing and training the public early on in their education life.

There is also a need to increase the pace of implementation. To quote Permanent Secretary at the Prime Minister's Office, Dato Paduka Haji Hazair, "Year 2005 is just three years away. We must act *now* and *move forward*<sup>20</sup>...". This speech was given in 2002. Indeed, with 2 years to go before the deadline, Brunei's plans are moving ahead and with the right attitude of urgency and initiative, the hopes of seeing a working, successful e-Government system in Brunei should come to pass.

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<sup>20</sup> Borneo Bulletin, 22 October 2002; "ICT projects to boost employment"

## **10.0 Conclusion**

Brunei is in a unique position to take a fresh approach to e-Government implementation by learning others experience.

e-Government encapsulates a huge range of opportunities that will enable the public sector to transform the services it provides through the use of internet, making the public sector more efficient and customer-friendly. The strategy that the Government is implementing is achievable and will require a solid and cohesive partnership among all the ministries to realise the planned outcomes by 2005. The e-Government, once successfully implemented, must be continuously improved and enforced with innovative ideas to keep pace with the changing business and global scenario.

Brunei's is well on its journey of implementing a successful e-Government as a step towards bringing the country to an era of paperless governance. By focusing the attention of Brunei's civil servants and setting everyone's sights on the goals to be achieved, any challenges to be faced would be surmountable.

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