

CONFERENCE ON INFORMATION TECHNOLOGIES
INFORMATION RESOURCES AND INTEGRATION:
AN AGENDA FOR CHANGE
UNIVERSITI BRUNEI DARUSSALAM LIBRARY
24-27 SEPTEMBER 2002

TITLE:
NATIONAL INFORMATION TECHNOLOGY DEVELOPMENT AND
E-BUSINESS INITIATIVES IN BRUNEI DARUSSALAM

by:
Yap Lye Tin
BIT Secretariat
Information Technology and State Stores Department
Ministry of Finance
Brunei Darussalam
e-mail: lyetin_yap@mincom.gov.bn
Date: 25 September 2002

© Universiti Brunei Darussalam

ABSTRACT

The development of Information and Communication Technology (ICT) in Brunei Darussalam is guided by and coordinated in accordance to the National IT Strategic Plan named the IT2000 and Beyond. The implementation of the plan officially started with the formation of the Brunei Darussalam Information Technology (BIT) Council in October 2000. The plan is further supported by the fund of about BND1 billion pledged in the 8th National Development Plan 2001-2005 for the implementation of IT related programmes and projects.

This paper presents a brief overview of the current Information and Communication Technology (ICT) development in Brunei Darussalam in the new millennium following the establishment of the IT2000 and Beyond and the formation of the Brunei Darussalam IT Council. It provides a brief background of the country, the National ICT strategic framework prescribed in the National IT Strategic Plan, and the IT development landscape prior to the establishment of the National IT Strategic Plan. The paper then proceeds to elaborate on the current implementation of some of the action plans prescribed in the National IT Strategic Plan and the challenges encountered, with focus on the e-Business strategic drives. It also gives some insights into the public and the private sector ICT initiatives on driving the e-business development in the country and highlights the importance of integration, coordination and collaboration amongst the sectors.

1.0 INTRODUCTION

This paper focuses on the development of Information Communication Technology (ICT) related activities currently being actively undertaken in Negara Brunei Darussalam to promote the wider acceptance of ICT in sustaining and enhancing the business competitiveness both in the Public and the Private Sectors. The paper provides some background information and development on several key initiatives, including the following:

- Telecommunications Infrastructure in Brunei Darussalam
- The National IT Strategic Plan – IT 2000 and Beyond
- The 8th National Development Plan (2001 – 2005)
- Public Sector ICT Initiatives (e-Government)
- Private Sector ICT Initiatives (e-Business)

2.0 BRUNEI DARUSSALAM INFORMATION TECHNOLOGY DEVELOPMENT

In Brunei Darussalam, Information Technology (IT) has always played a significant and important role in the positive contribution to the country's socio-economic development. The use of IT in the Public Sector started in the early seventies with the financial and telecommunications institutions being the early pioneers in applying IT for data processing to support their business functions and operations. Since then the use of IT within the Public Sector has evolved and developed quite noticeably through the long learning process. The growing awareness of IT capabilities as a potential strategic business tool has resulted in the extensive application of IT in the Public Sector in their business processes. In addition to just being a supporting mechanism for data processing, IT is increasingly being used as a strategic tool in many agencies in enhancing their business process efficiency and competitive advantage. The introduction of the local Internet Service Provider (ISP) in the mid-nineties coupled with accessibility to more advanced IT appliances and capabilities has further accelerated the wider acceptance of IT within the Public Sector taking advantage of the Internet business opportunities. Today, the diffusion of IT applications in the Public agencies have grown to a level where the pervasive use of desktop Personnel Computers (PCs) are commonly seen at the counters of most agencies.

In the Private Sector, the large business entities in the oil industry, airlines and banking sectors were the early pioneers in the use of IT to support their respective business processes and operations. Being the drivers in the country's economic activities, these organizations have always been in the forefront in embracing IT to perform their businesses. However, with the rising emergence of small and medium enterprises (SMEs) in the late eighties and early nineties driven by the conducive economic environment, the diffusion of IT in the Private Sector has to some extent increased both in the large corporations and SMEs. The trend in the applications of IT in the Private Sector continued to grow at a steady rate as technologies become more affordable and easy to use. The accessibility to the Internet and the World Wide Web as enablers to reach out to a wider audience has further encouraged business sectors to continue invest in IT to sustain and enhance their business advantage.

The accessibility of the Internet and the fallen costs of technologies have also increased the personal and home users of IT in Brunei Darussalam.

2.1 Communication Infrastructure

Brunei Darussalam has a small population of about 332,844 people (2001 population census, Brunei Economic Bulletin, July 2002) with a land area of 5,765 square kilometers. It has one of the

best basic telecommunication infrastructures in this region with a tele-density of about 25% (25 telephone lines per 100 people). The Brunei Global Multimedia Info-communication Network or 'RaGAM 21' commissioned in 1999 will eventually link up every major town, village, school, institution and commercial area in the country. Currently, almost every strategic area in Brunei-Muara District is linked to 'RaGAM21' network which in turn is linked globally via satellite (Indian Ocean Region and Pacific Ocean Region) and submarine cable systems (SEA-ME-WE3, Brunei-Singapore and Brunei-Malaysia-Philippines)

At present, there are five Internet Service Provider (ISP) licences being issued, out of which only two are in operations. The first operator being the Telecommunications Department (JTB) (www.telekom.gov.bn), which began its service in September 1995 (www.brunet.bn). The second ISP, Simpur.net (www.simpur.net.bn) operated by DataStream Technology (B) Sdn Bhd (DST) started its operations in October 2000. The country is expected to see more competitive pricing and services with the liberalisation of Telecommunication Services through the corporatisation of Telecommunications Department (JTB) with effect from 1 April 2003.

2.2 Legal Framework

Legal infrastructure for promoting and supporting e-Commerce in Brunei Darussalam has been given priority in its implementation. These include the following:

- Copyright Order 2000 to address Intellectual Property Rights (IPR) issues and to encourage innovation, creativity and technology investment in consistence with World Trade Organisation (WTO, TRIPS)
- Computer Misuse Order 2000 to address the issue of security and to protect legitimate users against potential misuse of computers
- Electronic Transactions Order 2000 to address issues on Electronic Transactions and the provision for the establishment of regulatory regime for Public Key Infrastructure (PKI)
- Class License Notification and the Internet Code of Practice under the Broadcasting Act 2001.

Overall, the legal framework is undergoing enhancement to create a favorable environment for electronic use and allow provision for cyber laws based on international standards such as the United Nations Conference on International Trade Law (UNCITRAL) Model Law (Attorney General's Chamber) (www.agc.gov.bn).

In this respect, Brunei Darussalam has been considered as one of the fore-runners within ASEAN to establish the e-commerce legislation.

2.3 Regional Cooperation and Initiatives

As a member of Association of South-East Asian Nations (ASEAN), Asia-Pacific Economic Cooperation (APEC), and Non-Aligned Movement (NAM), Brunei Darussalam is committed to the implementation and progress of the e-ASEAN (www.e-asean.info) and e-APEC (www.apecsec.org.sg) initiatives highlighted under the respective frameworks and the NAM Center for South-South Corporation (NAM CSSTC) (www.nam-csstc.org) work programmes. Hence, Brunei Darussalam is actively participating in the e-commerce and e-government work programs under the APEC fora and e-ASEAN initiatives to share and learn from the experiences and best practices of other member countries towards the ICT development in Brunei Darussalam and narrowing the digital divide among member countries.

3.0 THE NATIONAL IT STRATEGIC PLAN – IT 2000 AND BEYOND

To provide full commitment and support in ICT development, His Majesty the Sultan dan Yang DiPertuan Negara Brunei Darussalam consented to the establishment of the National Information Technology Council (BIT Council) in October 2000 with the aim to lead and facilitate the strategic development and diffusion of the state-of-the-art IT for the entire nation (www.bit.gov.bn). The goal is to enable the maximum exploitation of IT for national prosperity by pursuing three core strategies outlined in the National IT Strategic Plan (IT2000 and Beyond). These are the National Drive towards Paper-less Society (e-Brunei), the Public Sector Drive towards e-Government (e-Government) and the Private Sector Drive towards e-Business (e-Business).

To assist in achieving the mission and goals of the National IT Strategic Plan, the e-Government Program Executive Committee and the e-Business Program Executive Committee was formed in 2001.

3.1 The Eighth National Development Plan (2001-2005)

In recognising ICT as a driver for the new economy, a scheme value of about BND 1 billion has been allocated under the 8th National Development Plan (NDP) 2001-2005 for the implementation of ICT related projects. These include the expansion and upgrading of the national network and corporate infrastructure, e-government, e-education and the setting up of the Brunei Darussalam Eco-cyber Park (Brunei Economic Bulletin, Volume 1, Issue 2, April 2002, p4). This is the first time a chapter on ICT has been included in the NDP. To diversify from the traditional public sector driven economy, the 8th NDP has also emphasised on the importance of private sector involvement in contributing to the country's economy through prudent fiscal policy in which the Public Sector is likely to provide 40% project costing with the Private Sector providing the remaining 60% (8th NDP, p15). The implementation strategy adopted by His Majesty's Government for the 8th NDP indicates the direction and commitment in providing the means for a sustainable economic development with the participation of the public and the private sectors as well as the people of Brunei Darussalam.

With the strategic vision in the 8th National Development Plan and the establishment of Brunei Darussalam Information Technology (BIT) Council to spearhead the implementation of the National IT Strategic Plan (IT2000 and Beyond), the country is expected to see more extensive and effective application and usage of ICT, which will provide new business opportunities and contribute to the country's economic growth, employment opportunities and global competitiveness.

4.0 PUBLIC SECTOR ICT INITIATIVES (E-GOVERNMENT)

The e-Government Program Executive Committee (EGPEC) is the advisory and consultative body to the BIT Council for the development and implementation of the e-Government programs listed in the e-Government Strategic Framework for Action 2001- 2005 with the key message: ***E-GOVERNMENT 21ST CENTURY - "EG21 - GOVERNANCE AND SERVICES ON-LINE*** (www.e-government.gov.bn).

In the e-Government framework, a number of strategic IT projects have been identified for consideration and implementation by the relevant ministries. These include the integrated government wide Treasury Accounting and Financial Information System (TAFIS), Human Resource Management (HRM), Labour Exchange, Common Office Environment (COE) and Multipurpose Smart Card (MSC).

In addition, other flagship applications under consideration also include e-Health, e-Education and MukimNet with the aim to provide convenient and online services to the citizen. Besides providing ICT facilities to the ordinary citizens in the villages, MukimNet will also serve business development functions offering opportunities for the unemployed graduates to be engaged for its operations. MukimNet has been proposed to be funded partly by the government and the private sector especially in the infrastructure aspect.

5.0 PRIVATE SECTOR ICT INITIATIVES (E-BUSINESS)

In conjunction with the public sector drives towards e-government, the BIT Council has also established the E-Business Programme Executive Committee (EBPEC) in March 2001 with the objective of developing a Strategic Framework to set the direction on how the Private Sector and the Government can support the development of E-Business in Brunei Darussalam. Members of the EBPEC consist of representatives from the private sector, academia and civil service.

An E-Business Strategic Framework Report was produced recommending a series of initiatives and action steps to be implemented via the BIT Council with the aim to:

1. Develop and communicate the legal and regulatory framework in Brunei Darussalam to build confidence in e-business activities.
2. Increase Bruneian residents' demand for e-business based services.
3. Increase significantly the use of e-business by Bruneian businesses.
4. Provide basic ICT education and skills training which Bruneian labour force will require to participate in the information economy.
5. Ensure infrastructure is available and affordable in Brunei Darussalam to support the information economy.
6. Broadening Brunei Darussalam's economic base through ICT industries.

In April 2002, EBPEC has organised four working groups to oversee the implementation of the e-business initiatives. They are the Awareness Working Group, Education Working Group, Research Working Group and Strategic ICT Working Group.

5.1 Awareness Working Group

This working group is tasked to :

- Produce a consumer-friendly awareness-building programme to communicate the benefits of current legal regulations already in place to protect businesses and consumers in Brunei Darussalam and build confidence in e-business activities.
- Increase Bruneian residents' demand for e-business based services by developing a series of promotional materials to teach consumers how to undertake activities on line. Activities will include items such as how to send and receive e-mails; how to set-up an Internet account; how to shop on-line.
- Increase significantly the use of e-business by Bruneian businesses by helping business owners become aware of the benefits of online activities, and encourage them to undertake e-business projects

5.2 Education Working Group (focus on labour force)

The main aim of this working group is to provide basic ICT education and skills training to assist the labour force to participate in the information economy. This initiative is to ensure that the labour force in Brunei Darussalam has access to learning opportunities and to obtain the online skills required in both the workplace and the community.

5.3 Research Working Group

The main objective of this working group is to understand businesses and consumer awareness of ICT solutions, their behaviour and satisfaction using ICT, and their sensitivity to bandwidth pricing. This includes selecting a research agency to track Brunei Darussalam's progress in capacity building and to undertake a research assignment to assess what ICT infrastructure is available and affordable in Brunei Darussalam to support the information economy.

5.4 Strategic ICT Working Group

The main objective of this working group is to investigate ways of widening Brunei Darussalam's economic base through strategic ICT investments bringing benefit to both industry participants and the people of Brunei Darussalam. The group will coordinate the development of a strategic paper and situation analysis to identify the types of ICT industries that contribute to the New Economy. The paper will also review the criteria that potential foreign investors would use to evaluate doing business in Brunei Darussalam. The strategic plan would be used to advance e-business capabilities into future years.

6.0 CHALLENGES

With the advancement in ICT and the widespread use of the Internet, World Wide Web, availability of high bandwidth telecommunications network and user friendly applications, the private sector in Brunei Darussalam will also need to make an effort to embrace IT as part and parcel of the business strategy and to adapt to the changing environment in order to compete not only in the local market but also in the global market. The rapid adoption of ICT within the Public Sector has also created another challenge in providing the best services to meet the changing expectations of the general public. A cohesive central body such as the BIT Council is therefore needed to ensure the coordination of ICT policies and initiatives in enhancing and supporting the organizational business needs both in the public and private sectors and for nation building.

The e-business strategy is based on four overriding conclusions which have been identified as paramount in building both demand and supply for e-business solutions. (e-Business Strategic Framework Report, BIT Council)

1. The country's legal structure developed to ensure fair dealings over the Internet need to be effectively communicated to consumers and businesses to build confidence in transacting over the Internet.
2. Business owners and consumers need to become aware of the benefits of online activities, and encouraged to undertake e-business projects.
3. Education and training activities are critical to improving computer literacy to develop online markets. Specialist education and training is further required to ensure availability of relevant IT human capabilities to contribute to businesses ability to undertake e-business projects.
4. Bruneians need to be able to access the Internet at an affordable cost; and need to be equipped with the skills and knowledge to harness the information economy's benefits for employment and enhanced living standards.

To promote greater awareness and to progress in unity towards achieving similar goals and vision, the various initiatives from all concerned parties and the related policies, plans and up-to-date information in the public domain should be integrated and made readily available to be accessed both locally and overseas. The technologies available today has made it possible to provide an integrated and up-to-date central database targeting at a wider audience.

The need for cooperation and collaboration among all parties within an organisation, across organisations, between the public and the private sectors, within the country and in the region are also critical. Strong leadership and commitment from all stakeholders are important to ensure full support and cooperation at all levels.

7.0 FUTURE OUTLOOK

The recent announcement (22 August 2002) of the establishment of the Authority for Info-communications Technology Industry (AiTi) under the AiTi of Brunei Darussalam Order, 2001 may set the path for new ICT development in Brunei Darussalam. The Authority (AiTi) will take effect from 1st January 2003. The Authority (AiTi) will take over the regulatory function of Telecommunications Department (JTB) with the corporatization of JTB as a new company, Syarikat Telekom Brunei Berhad (TelBru Sdn Bhd), with effect from 1st April 2003 under the Telecommunications Successor Order 2001 and Telecommunications Order, 2001. Among others, the functions of the Authority includes :

- the promotion of the efficiency and international competitiveness of the information and communications industry in Brunei Darussalam;
- to advise the government on national needs and policies in respect to ICT matters;
- to exercise licensing and regulatory functions in respect of telecommunication systems and services in Brunei Darussalam;
- to encourage, promote, facilitate, invest in and otherwise assist in the establishment, development and expansion of the information and communications industry including ICT manpower resources in Brunei Darussalam,
- to establish regulatory frameworks to promote the use of Internet and electronic commerce; and
- *others* as stated in the Authority for Info-communications Technology Industry of Brunei Darussalam Order, 2001.

Therefore, the integration and accessibility of information is even more important in the coordination of efforts among various agencies and committees on a common platform to avoid duplication of efforts and to move progressively towards achieving the ultimate goals for the prosperity of the nation.

Other plans include the organising of the first Brunei Darussalam ICT Awards (BICTA) with collaboration from Brunei Darussalam Computer Society (PKBD), relevant government agencies and private sector in 2003. The objectives of BICTA are:

1. To encourage innovation in individuals and Small Medium Enterprises (SMEs) in the ICT Industry
2. To provide a platform for innovators, entrepreneurs and companies in ICT to benchmark their products with each other
3. To select Brunei Representatives to the Asia Pacific ICT Awards (APICTA) hosted yearly by country in Asia Pacific.

During the APEC 2000 Summit in Brunei Darussalam, the Leaders had endorsed the vision of preparing the APEC economies and all their people to use the technology revolution as a passport to the fruits of globalisation. The leaders had committee to achieve the goal of tripling the number of people within APEC with individual and community-based access to information and services offered via the internet by 2005 and to enable the people of urban, provincial and rural communities to have individual or community-based access by 2010 (www.apecsec.org.sg). Brunei Darussalam would be able to achieve this objective by implementing the e-Government and e-Business initiatives together with e-education.

Being a small market with about 98% of the businesses in Brunei Darussalam classified as small and medium enterprises (SMEs) with an employment size of below 100 employees and majority family own businesses, surveys and research reports on the private sector is limited in Brunei Darussalam. A complete database of company directory for research is also limited and not readily available. Recently, there was a private sector initiative to compile a comprehensive information listing of Small and Medium Enterprises (SMEs) to provide businesses within Brunei Darussalam an invaluable network of contacts and vital exposure to the national and the international business community in the form of digital directory by early 2003 (www.onebrunei.com).

His Majesty's Government through the recent launch of the Economic Census 2002 by the Department of Economic Planning and Development has undertaken an action plan to collect and compile up-to-date information relating to the economic activities undertaken by businesses for the years of 2000, 2001 and the first half of 2002. The census comprised of all registered businesses to be conducted in the month of September 2002 (Brunei Economic Bulletin, July 2002). The results will be made available in 2003 in the form of publications. It will provide a new basis for planning and formulating social and economic policies. The results from the economic census 2002 and the population census 2001 would assist the private sector in planning and developing their business activities and strategies and will also be a useful source of information for future research works.

8.0 CONCLUSION

The enforcement of various legislations to encourage innovation, creativity and technology investment, to promote trust and foster conducive environment for the development of e-commerce and economic activities will help to accelerate the development and the usage of ICT for the prosperity and well being of the people and nation.

In Brunei Darussalam, due to the small market and labor force, majority of the activities are still very much public sector driven. With the implementation strategy adopted for the 8th NDP (2001-2005), and the establishment of BIT Council in 2000 to pursue the three core strategies outlined in the National IT Strategic Plan (IT2000 and Beyond), the establishment of the Brunei Darussalam International Financial Center (BIFC) in 2000, the Brunei Economic Development Board (BEDB) in 2001, the Authority for Info-communications Technology Industry (AiTi) in 2003 and the corporatisation of Telecommunications Department (JTB) in 2003 have paved the way for greater cooperation and development in ICT with the participation of the public and the private sectors as well as the people of Brunei Darussalam.

REFERENCE

1. 8th National Development Plan (2001-2005), Department of Economic Planning and Development, Brunei Darussalam
2. Brunei Economic Bulletin, Volume 1, Issue 1, January 2002, Department of Economic Planning and Development
3. Brunei Economic Bulletin, Volume 1, Issue 2, April 2002, Department of Economic Planning and Development
4. Brunei Economic Bulletin, Volume 1, Issue 3, July 2002, Department of Economic Planning and Development
5. e-ASEAN Framework Report, www.e-asean.info, Association of South-East Asian Nations (ASEAN)
6. e-APEC Strategy Report, www.apecsec.org.sg Asia-Pacific Economic Cooperation (APEC)
7. e-Business Strategic Framework Report, BIT Council, Brunei Darussalam
8. National IT Strategic Plan - IT2000 and Beyond, BIT Council
9. www.agc.gov.bn, Attorney General's Chambers Website
10. www.bifc.finance.gov.bn, Brunei International Financial Center Website
11. www.bit.gov.bn, BIT Council Website
12. www.brunet.bn, JTB Internet Service Provider Website
13. www.e-asean.info, e-ASEAN Website
14. www.e-government.gov.bn, e-Government Website, BIT Council
15. www.onebrunei.com, Brunei Digital Business Directory Website
16. www.nam-csstc.org, Non-Aligned Movement Center for South-South Corporation (NAM CSSTC)
17. www.simpur.net.bn, DataStream Technology (B) Sdn Bhd Internet Service Provider Website
18. www.telecom.gov.bn, Telecommunications Department (JTB) Website