AFACT

Asia Pacific Council for Trade Facilitation & Electronic Business

2006 AFACT Year Book

PREFACE II

UN/CEFACT Vice Chair, Mr. T.A. Khan

The potential of eCommerce led Trade Facilitation is not a matter of debate anymore. It has moved into a phase where it has become a reality. Electronic commerce has transformed trade and industry in ways, which were not imagined or comprehended earlier. Its impact is going far beyond commerce and is affecting the lives of millions of Internet users, consumers, workers and producers.

This communication revolution is having a profound effect on the way the world is developing and the way business is being done. There are areas where changes are taking place as networks are growing, distance is no more a major factor, companies are locating their digital productions wherever they access the best bargains, giant corporations are emerging but so are small enterprises, who are now able to offer similar services at lower costs (for developing countries this mean a great opportunity). However, developing countries face a distinct challenge in order to realize the promises inherent in this new technological development. The task is two-fold i.e. to equip developing countries to benefit from and use the Internet as a tool for development; and secondly, to ensure and manage the growth and development of the Internet that would also promote development. This requires investments in the infrastructure to ensure the easy and affordable availability of computers and software, and in training and Internet literacy.

The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) is establishing priorities as per changing international environment and exploring ways for developing and transition economies to participate and share fairly in the benefits. The integration of countries priorities, efficient business practises, efficiency through standards, interoperability are the major focus areas. The Asia Pacific Council for Trade Facilitation and Electronic Business (AFACT) is bringing together the member countries in the Asia Pacific region to overcome the challenges posed by the new technological developments by promoting the international standards and best practises in association with UN/CEFACT. It is third successive year that AFACT Secretariat is compiling the year book, which is a remarkable effort.

UN/CEFACT Vice Chair & Deputy Director General, NIC

T. A. Khan

PREFACE III

AFACT Secretariat, Dr. Jyh-Sheng Ke

Electronic business (e-Business) has thrived in the past years and, together with information technology, Internet as well as telecommunication, turned into a driving force for the global digital economy. The growth of e-Business creates both challenges and opportunities for the applicable governments, not only boom fosters economic development, but also exacerbates the existing digital divide.

With the goal of becoming a well-developed digital society in which every citizen can enjoy high quality e-life and digital equality, Chinese Taipei had made numerous efforts over the past two decades in promoting ICT applications to the government, business, and community.

We witnessed the presence of “digital divide” as information and ICT tools were not accessible to certain regions. However, during the same period, we had also witnessed the possibilities of transforming “digital divide” into “digital opportunity” in all instances where proper governance, policies, education programs, training facilities, and constant awareness promotion were duly installed. As a member of Asia-Pacific region, we relish the opportunity to sharing with the AFACT community our pertinent experiences and resources in the hope of eventually facilitating the development of a global information society with digital equality.

With the distinguished honor of being elected as the AFACT Secretariat for the second service term from 2006 to 2009, Chinese Taipei will continue our efforts to promote Trade Facilitation and Electronic Business in the Asia-Pacific region. Acting in the capacity, the AFACT Secretariat had successfully organized the first eASIA Week in 2003 and the second eASIA Week in 2004. The eASIA Week event had undoubtedly advance AFACT members’ understanding of international e-Commerce, and also enabled the AFACT Secretariat to obtain appropriate recognition for its service in the area of developing and strengthening partnership among AFACT members. For the purpose of documenting progress and developing AFACT, the AFACT Secretariat had published the “AFACT Year Book” on an annual basis, which started in 2004, and will continue such yearly activity awards. Furthermore, we greatly appreciate those participating members who had contributed to the previous year books and hope that they will again benefit from the annual periodical.

Finally, we anticipate that members of the AFACT community will cooperate with each other in promoting the ongoing deployment of e-Commerce in this region, making Asia a success on e-Commerce, as well as facilitating digital equality in the region and around the world.

AFACT Secretariat
President, Institute for Information Industry (III)

Dr. Jyh-Sheng Ke

PREFACE IV

UN/CEFACT Rapporteur for Asia, Mr. Sangwon Lim

AFACT community will hold its 24th meeting this year. Through 16 years of activities, AFACT has greatly contributed to the development of electronic business and paperless trading in the region. In its mission statement, AFACT states that it "aims to support in the Asia Pacific Region policies and activities, especially those promoted by UN/CEFACT." UN/CEFACT, with its global remit, tries to promote and facilitate electronic business and trade in the various regions of the world. Out of various regions, the Asia Pacific Region is regarded as the outstanding success case by UN/CEFACT, mainly due to the effort of AFACT community. As a result, the Asia Pacific Region shows higher level of implementation of UNEDIFACT, ebXML and other eBusiness standards than any other regions of the world.

On the basis of the monumental achievement of more than a decade, AFACT will try to embark on new directions for facilitating electronic business and paperless trading in 2006. At the strategic and policy level, AFACT plans to prepare AFACT roadmap this year, which will be used as a guideline for AFACT activities in the 3 – 5 year terms in the future. AFACT will also work on revising its Bylaws, which was prepared in 2001 and used as an organizational operation principle. On the other hand, AFACT will focus on strengthening its cooperative relationship with other regional bodies, such as APEC, ASEAN, SAARC, etc., in full recognition of the need for harmonized and coordinated activities in pursuing joint regional prosperity. At the tactical and working activity level, AFACT has many issue items to deal with such as UNeDocs and Single Windows.

As we are aware of, trade and business environment is never static. They are always dynamically changing, even more so in this global economy supported by rapidly developing ICT. With its mission to promote international transactions in the region, AFACT also needs to optimize its organization and activity accordingly. In this context, this year will mark a meaningful point for new direction of the AFACT. AFACT should clearly continue to have its important role as a facilitation body of electronic business and paperless trading in the region.

UN/CEFACT Rapporteur for Asia

Sangwon Lim

Introduction to AFACT

About AFACT
AFACT Bylaws
2006 AFACT Structure & Members

ABOUT AFACT

AFACT is the Asia Pacific Council for Trade Facilitation and Electronic Business. It's a non-profit, non-governmental organization that is open to participation from the representatives of member economies and experts from private sectors within the Asia-Pacific region.

The forerunner of AFACT was ASEB (Asia EDIFACT Board) established in 1990 in response to disseminate EDIFACT (Electronic Data Interchange for Administration, Commerce and Transport) policies and activities in the Asia-Pacific region. After 8 years' contribution to facilitate international transaction within the region, through the simplification and harmonization of procedures and information flows, the need for re-engineering was raised in the 16th ASEB meeting to conform to the rapidly changing trend of EDI and EC, and to respond to the successful restructure of UN/CEFACT. As a result of re-engineering, AFACT marked down the era of ASEB in 1998. In 1999, the epoch of AFACT was officially commenced.

AFACT aims to promote the commitment and development of trade facilitation, electronic business policies and activities in the Asia Pacific region, mainly focusing on those promoted by UN/CEFACT (United Nations Center for Trade Facilitation and Electronic Business), to guide, stimulate, improve and promote the ability of business, trade and administrative organizations from members, as well as to exchange products and relevant services effectively within AFACT community.

Currently, there are 17 members from Australia, Cambodia, Chinese Taipei, India, Indonesia, Iran, Japan, Korea, Malaysia, Mongolia, PRC, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam. Each of which is represented by a local organization dedicated in promoting the application of standards and recommendations, e.g. UN/EDIFACT, developed by UN/CEFACT. eBusiness Asia committee and PAA (Pan-Asian eCommerce Alliance) are the associate members of AFACT, which is dedicated to promote cooperation in implementing trade facilitation and eCommerce in this region.

There are 11 active Working Groups formed under AFACT, each with its own scope of work and responsibilities. The Working Groups are Awareness and Education Working Group (AEG), Financial Working Group (FWG), Transport Working Group (TWG), Customs Working Group (CWG), Security Working Group (SWG), Air Transport Working Group (ATG), Supply Chain Working Group (SCWG), Legal Working Group (LWG), Internetworking Implementation Committee (IIC), XML Working Group (XMLWG), and Business Collaboration Framework Working Group (BCFWG).

The major activities include：

1. Analyzing and understanding the key elements of international transactions and working for the elimination of constraints;
2. Developing methods to facilitate transactions, including the relevant use of information technologies such as UN/EDIFACT and ebXML;
3. Promoting both the use of these methods, and associated best practices, through channels such as government, industry and service associations;
4. Coordinating its work with UN/CEFACT and other relevant international, regional and non-governmental organizations; and
5. Enhancing the cooperation among the AFACT members and promoting the objectives of the mission statement in the Asia Pacific region.

AFACT BYLAWS

Article 1
Name

The name of this organization shall be the Asia Pacific Council for Trade Facilitation and Electronic Business (hereinafter referred to as "AFACT").

Article 2
Mission Statement

AFACT aims to support in the Asia Pacific region policies and activities, especially those promoted by UN/CEFACT (United Nations Center for Trade Facilitation and Electronic Business), dedicates to stimulate, improve and promote the ability of business, trade and administrative organizations, to exchange products and relevant services effectively in a non-political environment.

Its principal focus is to facilitate international transactions, through the simplification and harmonization of procedures and information flows, and so contribute to the growth of global commerce

Article 3
Terms of Reference

The principles of the mission statement are to be achieved by:

- Analyzing and understanding the key elements of international transactions and working for the elimination of constraints;
- Developing methods to facilitate transactions, including the relevant use of information technologies such as UN/EDIFACT and ebXML;
- Promoting both the use of these methods, and associated best practices, through channels such as government, industry and service associations;
- Coordinating its work with UN/CEFACT and other relevant international, regional and non-governmental organizations; and
- Enhancing the cooperation among the AFACT members and promoting the objectives of the mission statement in the Asia Pacific region

Article 4
Structure

AFACT shall be a non-profit, non-political, voluntary and independent organization

Article 5
Membership

Membership shall comprise two categories shown in Appendix 1 hereto:

- Member - The countries and economies in the Asia Pacific region represented by the agency assigned to promote and develop trade facilitation and Electronic Business. Such agency is recognized as the single focal point for UN/EDIFACT or UN/CEFACT related activities.

  Agencies of the United Nations can also be members.

  All existing members and associate members in the ASEB shall be automatically recognized as members of AFACT.

- Associate member - Any other organization from the Asia Pacific region or relevant international organization located in the region, committed to similar objectives as AFACT.

Any country, economy or organization wishing to join AFACT must submit an application for membership in writing to the AFACT Secretariat who shall circulate it to the Steering Committee members for consideration and approval, as well as to all members and associate members for consultation. If approved, the Steering Committee shall report to the Plenary on the approval of the application.

The Chair for the Plenary may also invite non-member countries, economies and experts as observers or special invitees.

Article 6
Plenary

The Plenary shall include members, associate members and observers, represented by their Heads of Delegations. A simple majority of the members is required for a quorum.

The Plenary Meeting shall be a forum to exchange views on any areas of common interest including the latest developments in each member or associate member under the ambit of the Mission Statement.

The Plenary shall be the highest decision making body of AFACT and shall have the responsibility of ratifying all major decisions and monitoring the execution of the adopted resolutions.

The preferred way of reaching decisions shall be by consensus. However, the Chair shall have the authority to call for a vote if, in his view, consensus cannot be reached on a particular issue. In such cases, a simple majority of all voting members constitutes a decision. In case of a tie, the chair shall cast the deciding vote.

Only members are eligible to vote. The vote shall be cast by the Heads of Delegations or their designated representative.

For dissolution of AFACT, the adoption of the Bylaws or a change to the Bylaws, a two-third majority of all voting members is required.

Absent members can have the option to vote by email or other means, or by proxy entrusted to the Chair or a fellow AFACT member.

The Plenary shall meet at least once a year.

Article 7

Officers and Secretariats

Annually AFACT shall identify a member to host the organization (hosting member).

The officers of AFACT shall be the Chair, two Vice-Chairs and the Secretary. The term of office for each post shall be one year.

The hosting member shall nominate the Chair, with one Vice-Chair being nominated by the next hosting member (Chair elect) and the immediate former Chair acting as the other.

At the start of each Plenary, the identification of next hosting member and the Chair elect shall be approved.

The hosting member shall nominate a person who shall be the Hosting Secretary of AFACT (hereinafter the hosting Secretariat).

Their term shall start immediately after the close of the previous Plenary meeting. In order to ensure a smooth hand-over between the two hosting Secretariats, a Joint hosting Secretariat shall exist for an agreed period, after the previous Plenary meeting.

The AFACT Secretariat shall be nominated by the Steering Committee and ratified by the Plenary for four years term, based on the Terms of Reference described in the Appendix 3, which shall be open for any AFACT member and reviewed every four years.

Article 8

Steering Committee

The Steering Committee is responsible for the management and coordination of AFACT between the Plenary meetings. The Steering Committee also supervises the progress status of the decision made by the Plenary meeting.

The composition of the Steering Committee shall be as follows:

- Chair (of AFACT)
- Two Vice-Chairs (of AFACT)
- UN/CEFACT Rapporteur for Asia (Advisor)
- Two Heads of Delegation appointed by the Plenary who will hold office as members of the Steering Committee for a term of two years.
- AFACT Secretariat

The Steering Committee is chaired by the Chair of AFACT.

The hosting Secretariat shall be present in all Steering Committee meetings.

The agenda for the Steering Committee meeting shall be circulated to the Heads of Delegations and Chairs of Working Groups for comments.

The Chair may invite Chairs of Working Groups for specific meetings, as appropriate and all Heads of Delegation shall be entitled to attend meetings of the Steering Committee.

Where required, the Steering Committee shall be empowered to take decisions on behalf of AFACT between Plenary meetings. In such cases, every effort shall be made to consult with the Heads of Delegations.

Steering Committee decisions shall be made by consensus.

The Steering Committee shall meet at least twice a year. This can be either in the form of a physical meeting or a virtual meeting.

Article 9

Working Groups

Working Groups may be established to focus on a specific area of interest, under the ambit of the Mission Statement.

To establish a Working Group, the interested parties shall submit a proposal, including the Terms of Reference, to the Steering Committee for approval and subsequently, to the Plenary for ratification.

Each Working Group shall appoint its own Chair and Secretariat. The term of service for the Chair and the Secretariat shall be for a period of two years.

Each Working Group shall submit its Work Program to the Steering Committee for endorsement.

The Working Group shall meet at least twice a year. This can be either in the form of a physical meeting or a virtual meeting.

The Chair of each Working Group shall report to the Plenary.

All Working Groups under the ASEB shall be automatically recognized as a Working Group under the AFACT. Each Working Group shall review and submit their Terms of Reference to the Steering Committee for approval and subsequently, to the Plenary for ratification.

Article 10

Focal Point

Each AFACT member is required to have a single focal point, dedicated to the promotion, dissemination and implementation of AFACT objectives.

The focal point shall identify the Head of Delegation and a contact person who shall be responsible for communication with the AFACT Secretariat and all related parties.

Article 11

EDICOM

EDICOM is the annual conference and exhibition of AFACT. It features the latest technology and information on Electronic Data Interchange (EDI), Electronic Commerce (EC), UN/EDIFACT and other related activities including trade facilitation.

EDICOM shall be organized by the hosting member, adjacent to the Plenary, in consultation with the Steering Committee.

Article 12

Relationship Between AFACT and UN/CEFACT

As set out in its Mission Statement, AFACT seeks, amongst other objectives, to promote the aims, objectives and activities of UN/CEFACT within the Asia Pacific region. To this end, Asia

Pacific delegations to UN/CEFACT provide a strong link between AFACT and UN/CEFACT.

The UN/CEFACT Rapporteur for Asia provides another significant linkage. The Rapporteur shall be appointed by the Plenary of UN/CEFACT on the recommendation of the AFACT Plenary. (The Mandate of the UN/CEFACT Rapporteur for Asia is attached as Appendix 2).

AFACT is also strongly encouraged to identify and nominate potential members to the UN/CEFACT Steering Group. These nominations shall take place after full consultation with AFACT and shall normally be made on behalf of AFACT, to the UN/CEFACT Secretariat, by the delegation holding the Chairmanship of AFACT or by a delegation designated by the Chair.

Close coordination between AFACT Working Groups and UN/CEFACT Working Groups is strongly encouraged and both bodies shall use their best endeavors to ensure this coordination. This is most effectively achieved when there is a formal relationship between the respective groups.

Article 13

Expenses

The hosting member shall cover all expenses involved in organizing the Plenary Meeting, the Steering Committee Meeting and the meetings for the various Working Groups held before the Plenary Meeting.

The hosting member is entitled to charge a participation fee for each delegate. The amount to be charged shall be decided in consultation with the Steering Committee.

The AFACT Secretariat shall cover all the costs incurred in performing the responsibilities as the secretariat and maintaining the AFACT Website

Article 14

Working Language

The working language of AFACT shall be English

Article 15

Effectiveness

These Bylaws enter into effect on October 3, 2001, upon ratification by the AFACT Plenary

Appendix 1

List of Members and Associate Members as of October, 2005

Members – Australia, Cambodia, Chinese Taipei, India, Indonesia, Iran, Japan, Korea, PRC, Malaysia, Mongolia, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam

Associate Member – eBusiness Asia Committee, PAA (Pan-Asian eCommerce Alliance)

Appendix 2

Mandate UN/CEFACT Rapporteur for Asia

Within Asia, the Rapporteur shall:

- Promote and represent CEFACT's interest and activities to governments, inter-governmental organizations, relevant trade associations and business and trade facilitation organizations;
- Encourage the participation of experts in CEFACT's work program and stimulate the implementation of CEFACT's Recommendations;
- Coordinate CEFACT's activities in the area.

Liaison Relationships

This mandate shall be carried out, where appropriate, in liaison with Heads of delegations to CEFACT coming from Asia as well as in liaison with the secretariat of ESCAP and the Chairs of CEFACT's Working Groups.

Reporting Relationships

A report shall be presented by the Rapporteur to each CEFACT Plenary. The Rapporteur also has the right to raise issues directly with the CEFACT Steering Group (CSG) and shall be entitled to attend the CSG as an observer.

Duration of Appointment

Initially for three years, thereafter renewable every two years

Appendix 3

AFACT Secretariat Terms of Reference

1. Background

- When the Asia EDIFACT Board (ASEB) was reformed into the Asia Pacific Council for the Facilitation of Procedures and Practices for Administration, Commerce and Transport (AFACT) in 1998, the Board decided that AFACT did not have a permanent secretariat, and secretariat roles were served by the host secretariat in one year term. The running secretariat shall be provided by the host member, which this new system shall be reviewed after two or three year's experiences.
- In the Taipei AFACT meeting, the HoD of Islamic Republic of Iran suggested to consider for setting up a secretariat to manage AFACT in consistent manners. The AFACT Plenary has decided to establish a secretariat under AFACT in principle. Then, the Chair (Dr. Lin) allowed the Steering Committee to look for a secretariat within AFACT members.

2. Terms of Reference

- The purpose of AFACT Secretariat is to explore, review and identify the most practical approach for managing and operating AFACT tasks on Trade Facilitation and Electronic Business in Asia Pacific region.
- The AFACT Secretariat should coordinate with UN/CEFACT Rapporteur for Asia to achieve the responsibility of the AFACT Secretariat.

Taking account of existing AFACT Terms of Reference, these shall include;

a) To document all AFACT related activities and publish them on the AFACT web site,

b) To maintain the AFACT web site in cooperation with other members' secretariat,

c) To support the host secretariat for organizing AFACT Plenary meeting and its joint working groups' meetings, AFACT Steering Committee meeting and EDICOM,

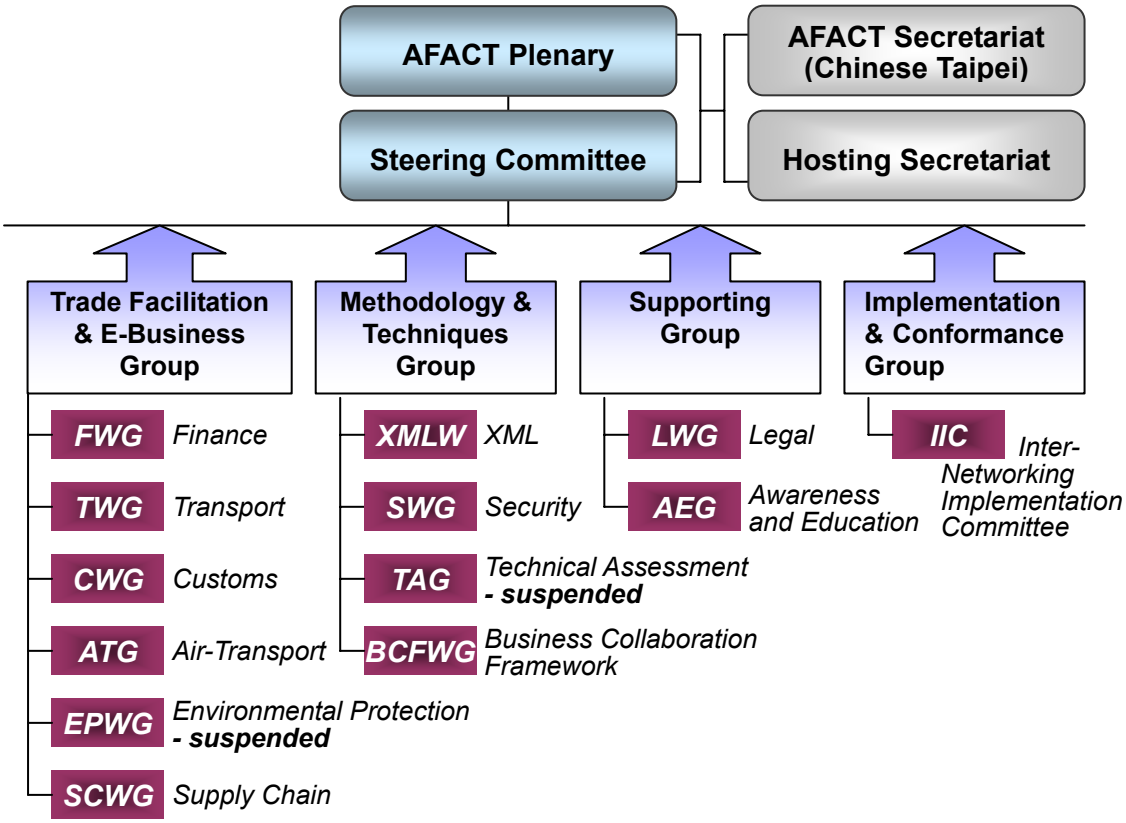
d) To facilitate the affairs in relation to new membership application,

e) To attend AFACT related meetings to support the host secretariat,

f) To attend UN/CEFACT Plenary meeting, if possible, to follow up its decision and discussion made during the meeting and feed back them to AFACT community, and

g) Any other business.

2006 AFACT Structure & Members



Members

Chinese Taipei	Singapore	Iran	Pakistan
Indonesia	Philippines	Korea	India
Thailand	Australia	Japan	Sri Lanka
Malaysia	China	Viet Nam	
Mongolia	Cambodia		

Associate Members ❖ eBusiness Asia Committee ❖ PAA

AFACT Organization

2006 AFACT Steering Committee Board Members
2006 AFACT Heads of Delegations
2006 AFACT Members Secretariat List
2006 Working Groups Chairs
Associate Members
AFACT Member Organization

2006 AFACT Steering Committee Board Members

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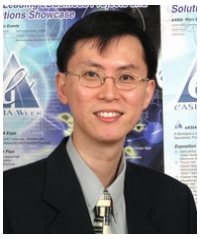

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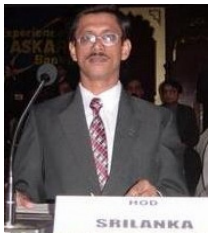

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P.R.C.	CESI China Electronics Standardization Institute	Address: No.1 Andongmen East Street, Beijing China 100007 Tele: 86-10-8402 9159/ 6400 7689 Fax: 86-10-6400 7681 E-mail: nic@cesi.ac.cn
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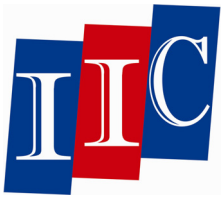
2006 Country Progress Reports

CAMBODIA Progress Report



International Institute of Cambodia

2006 Country Progress Report : CAMBODIA

1. ECONOMY OVERVIEW

In 1999, the first full year of peace in 30 years, the government made progress on economic reforms. The US and Cambodia signed a Bilateral Textile Agreement, which gave Cambodia a guaranteed quota of US textile imports and established a bonus for improving working conditions and enforcing Cambodian labor laws and international labor standards in the industry. From 2001 to 2004, the economy grew at an average rate of 6.4%, driven largely by an expansion in the garment sector and tourism. With the January 2005 expiration of a WTO Agreement on Textiles and Clothing, Cambodia-based textile producers were forced to compete directly with lower-priced producing countries such as China and India. 2005 GDP growth were 13 percent. Faced with the possibility that its vibrant garment industry, with more than 200,000 jobs, could be in serious danger, the Cambodian government has committed itself to a policy of continued support for high labor standards in an attempt to maintain favor with buyers. The tourism industry continues to grow rapidly, with foreign visitors surpassing 1 million for the year by September 2005. In 2005, exploitable oil and natural gas deposits were found beneath Cambodia's territorial waters, representing a new revenue stream for the government once commercial extraction begins in the coming years. The long-term development of the economy remains a daunting challenge. The Cambodian government continues to work with bilateral and multilateral donors, including the World Bank and IMF, to address the country's many pressing needs. In December 2004, official donors pledged $504 million in aid for 2005 on the condition that the Cambodian government implements steps to reduce corruption. The major economic challenge for Cambodia over the next decade will be fashioning an economic environment in which the private sector can create enough jobs to handle Cambodia's demographic imbalance. More than 50% of the population is 20 years or younger. The population lacks education and productive skills, particularly in the poverty-ridden countryside, which suffers from an almost total lack of basic infrastructure. Fully 75% of the population remains engaged in subsistence farming.

2. ICT SECTOR

The outlook of ICT sector in Cambodia can be depicted in the summary of indicators in Table1.

Table 1. Summary of ICT related indicators – 2006 Cambodia

Indicators	Figures	Source
Telephony		
Fix-line subscribers	36,400	(1) ITU 2004
Fix-line per 100 inhabitants	0.26%	(1) ITU 2004
Cellular subscribers	861,500	(1) ITU 2004
Cellular per 100 inhabitants	5.95%	(1) ITU 2004
Cellular as % of total fix-line subscribers	96.0%	(1) ITU 2004
# of telecom service providers (fix-line & mobile)	8	(2) NiDA 2006
Internet & PC		
# or PCs nationwide	38,000	(1) ITU 2004
PC Diffusion (per 100 in habitants)	0.26	(1) ITU 2004
# of PC shops	185	(3) Yellowpage Cambodia
# of ISP	11	Direct inquiry to MPTC
# of Internet users	41,000 (2004)	(1) ITU 2004
# of Internet cafes	287	(3) Yellowpage Cambodia
# of IT solution/service business	Appx. 40~90	(3) Yellowpage Cambodia
Average price of access (per hour)	0.5 USD	(2) NiDA 2006
# of universities/institutes offering degree in IT, Comp. Science, or MIS	25	Researched by NiDA (not published, as of March 2006)
Computer school & training institutes (short courses)	143	(3) Yellowpage Cambodia
# of students in comp. science course	6,730 (2003-2004)	(5) MoEYS
# of .kh domains	320	(2) NiDA 2006
Domain registration fee	40 USD (registration) 30 USD (annual renewal)	(2) NiDA 2006
# of websites hosted in Cambodia	1200	(2) NiDA 2006
Broadcast		
# of radio station	16 (2 national, 14 local,)	(2) NiDA 2006
# of TV station	7	(2) NiDA 2006
# of cable TV station	2	(2) NiDA 2006
# of radio per 1,000 people	113	1997-2003 (7) World Bank 2005
# of TV per 1,000 people	8	(7) World Bank 2005
General		
Electrical grid coverage (% households with connections)	10%	(6) World Bank 2004
Literacy rate (15-24 yrs)	83.5 (Estimate)	(4) RGC 2006

(1) International Telecommunication Union (ITU). Statistics are from 2004, available at: http://www.itu.int/ITU-D/ict/statistics/ (Accessed in March 2006).
(2) National ICT Development Authority (NiDA), "Information Communication Technology in Cambodia –Draft Policy and Background Paper– (draft version)", Royal Government of Cambodia, 2006.
(3) The figures are taken from Yellowpage Cambodia website at http://www.yellowpages-cambodia.com/
(4) Figure for PC Shop is a number of listing under "Computer - Equipment, Maintenance & Consultancy", Internet Café under "Internet cafe", IT solution/service business estimated under "Database Development, Software – Computers and Web Design", and Computer school & training institutes under "computer school & training". (Accessed in March 2006)
(5) Royal Government of Cambodia (RGC), "National Strategic Development Plan 2006-2010 (unofficial translation from Khmer version)", 2006.
(6) Data provided directly by Department of Higher Education, Ministry of Education, Youth and Sport (MoEYS).
(7) World Bank, "Seizing the Global Opportunity –Investment Climate Assessment and Reform Strategy for Cambodia", 2004.
http://siteresources.worldbank.org/INTPSD/Resources/336195-1092412588749/cambodia.pdf (Accessed in April 2006)
(8) World Bank, World Development Indicators 2005. Taken from "table 5.11 The information age", available at http://devdata.worldbank.org/wdipdfs/table5_11.pdf (Accessed in April 2006)

Some characteristics and challenges of the ICT sector in Cambodia are highlighted as follows.

2.1 Infrastracture

- **High mobile penetration**: Cambodia is the first country in the world where mobile telephone subscribers surpassed fixed ones. In 2004, 96% of telephone numbers were for mobile subscribers. Due to the mobile penetration, the tele-density has reached nearly 6%, which is a significant number for a Least Developed Country (LDC).

- **Limited backbone infrastructure:** Telecommunication infrastructure consists of local exchanges in Phnom Penh area, and optical fiber lines from Poipet to Bavet, crossing the country east-west, and from Banteay Meanchey to Siem Riep. A new fiber optic project is underway between Shianoukville and Kampong Cham. Microwave and local satellite systems are used for transmission from Phnom Penh city to provinces which are distant from these lines.

- **Expensive Internet access cost:** Although internet connection has improved recently in town areas with the introduction of broadband services, the cost of access is still high due to high connection tariff of the backbone network. For example, DSL at the speed of 128Kbps up to 800MB transaction costs 98 USD per month (Online). The dial up connection costs 10 USD per 6 hours within a month period.

- **Slow connection due to a bottleneck in international gateway:**
  Expensive international gateways result in high access cost and narrow bandwidth. The bandwidth connecting to outside Cambodia is limited to 160Mbps both up and down links. This has improved from 9.5 Mbps in 2001[1], yet still is not meeting the growing demands. It cannot be easily upgraded due to its high cost. Telecom Cambodia (TC) uses the link to CAT and VTI via optical fiber and satellite link with Shin Satellite via Singapore. The cost of optical fiber link is around 3570 USD/1Mbps and that of satellite link is around 4500USD/1Mbps up and down.

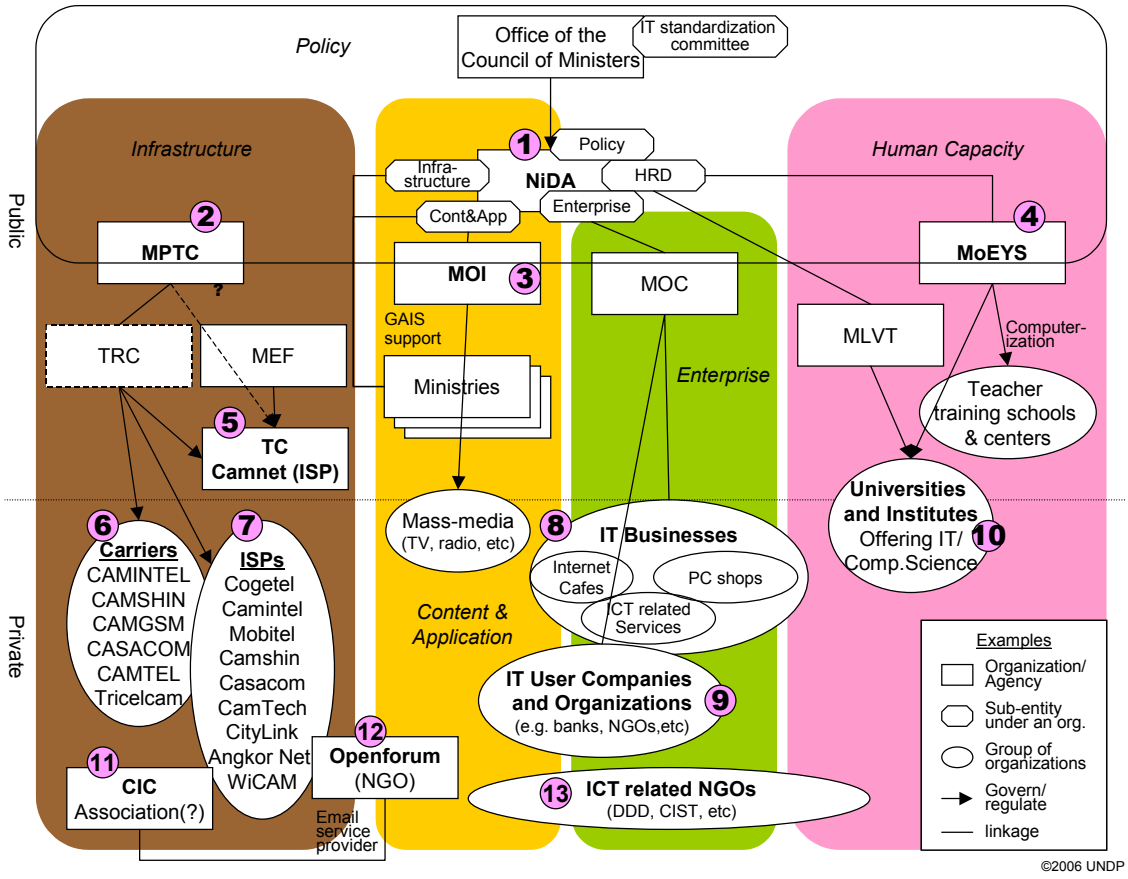
- **Popular broadcasting media:** Broadcasting has penetrated broadly. TVs and radios are very popular in rural areas, as they serve as one of few entertainments. They are viewed as the most outreaching media in the country at the moment.

3. Key Institutions and Players

A number of institutions and players in the ICT sector are mapped by five groups of Digital Opportunity Initiative (DOI) framework[2] (Figure 2). This stakeholder map is useful in grasping at a glance picture of all players, their roles and relationships. Players are indicated in boxes and circles with distinction of public and private. Relationships between players are indicated in arrows, but sometimes the relations are not linear as it seems in the figure, due to strong influence of personal relationships beyond organizational boundaries.

Key institutions and players (with numbers in the Figure 2) are described hereunder.

Figure 1. Stakeholder map of ICT sector



3.1 National Information Communication Technology Development Agency (NiDA)

NiDA was established in 2000 to promote ICT in the country. It is tasked to formulate ICT policy for a short, medium and long term development. It is under the auspice of the Office of the Council of Ministers and chaired by the Prime Minister.

There are five divisions under NiDA, namely infrastructure, policy, human resource development, enterprise and content and applications. The organization chart and brief descriptions of activities under each division are provided in Annex I.

3.2 Ministry of Post and Telecommunications of Cambodia (MPTC)

MPTC has been a policy making and regulatory body for the post and telecommunication sector, as well as an operator of telecommunication and postal services. There were five Secretaries of States and five Under Secretaries of States with staff of nearly 2,000. Recently, as mentioned earlier, MPTC is under a major reform. As a result, the MPTC will only deal with policy matters of telecommunication sector with remaining arms of postal services. The size and the structure of the reformed MPTC are yet to be defined.

3.3 Ministry of Information (MOI)

Ministry of Information is in charge of the development and regulation of media and publications. It has been actively involved in ICT policy discussions.

3.4 Ministry of Education, Youth and Sports (MoEYS)

MoEYS has developed "Policy and Strategies on ICT in Education in Cambodia" for effective use of ICT in education sector, with technical assistance from UNESCO. Major achievements in relation to ICT include computerization of teacher training centers with second-hand computers donated from abroad and introduction of a computer class in all teacher training courses. E-learning has not yet been taken up much by the Ministry.

MoEYS also oversees the higher education, where many universities have opened up ICT related courses. MoEYS has slowly worked on improving the quality of higher education. For example, MoEYS introduced the first-year Foundation course in every university and has set up Accreditation Committee of Cambodia. However, for the quality of ICT related courses, MoEYS largely rests on academies to improve by themselves.

3.5 Telecom Cambodia (TC) / Camnet

TC was established in January 2006 with the approval of "Sub-decree on the creation of Telecom Cambodia as Public Enterprise". According to the sub-decree, TC is supervised by both MPTC and Ministry of Economy and Finance (MEF). Decisions on TC are made by the governing board of 7 members representing MPTC, OCM, MEF, Ministry of Interior, the management and staff of TC, and Chamber of Commerce . TC has to give 51% of the gross income from international telecommunication service and 5% of the gross income from domestic telecommunication and value-added service to the government. TC will be regulated by TRC when it is established.

There are two departments each headed by a Deputy Secretary General, one looking after domestic and international telecommunication services, and the other dealing with planning, ICT and customer service. Camnet is the name of internet service provider

established within TC, which fall within the latter department.

4. Telecom Service Providers

There are 8 telecommunication service providers (as of April 2006). TC (former MPTC), the first Gateway (001), Camintel, and Camshin (Shinawatra) operate on fix-line, and Casacom (Samart), Camtel, Tricelcam, Camshin (Shinawatra), and CamGSM (Mobitel) provide mobile phone service. Royal Telecom International (RTI) provides the second gateway (007). Most of them are joint venture with foreign investment from Thailand, Malaysia, Indonesia, Singapore, Australia, etc. Each operator has different prefix numbers which are often difficult to connect from one to another.

4.1 Internet Service Providers (ISPs)

There are 11 ISPs, including Camnet of TC and also Openforum, an e-mail provider (as of March 2006). This market has become increasingly competitive as compared to two players by mid-2001[3]. Services provided include dial-up, xDSL, broadband wireless, and leased line connections. The number of internet users is estimated at around 41,000 in 2004 (Table 1).

4.2 IT Businesses

The IT business sector is small, concentrated in town areas and predominantly SMEs. There are mainly three types of IT businesses found in Cambodia, i.e., PC shops, internet cafés and IT solution/service providers. Software development businesses are marginal; most of the projects are done aside by other main business such as PC retail[4].

Table 2. Number of listing in IT business related categories in the Yellowpages

Category (multiple categories for each registration)	Number
Computer - Equipment, Maintenance & Consultancy	185
Computer Networking & Security	98
Computer Programming Consultants	38
Computer Schools & Training	144
Database Development	46
Internet Café	288
Software - Computers	93
Web Design	64

Source: Yellowpage Cambodia (http://www.yellowpages-cambodia.com)

[3] ITU, *ibid.*, 2002, p.14.
[4] Center of the International Cooperation for Computerization (CICC), "Country Report – Cambodia", 2006

4.3 IT User Companies and Organizations

The computers in companies and organizations are accessible, but the connectivity seems to be still low. According to a study by the World Bank which oversaw more than 500 enterprises in five main cities, 18.83% of workers use computer in their jobs (Table 4)[5]. Another study conducted by Center for Information Systems Training (CIST) suggests that one computer is available for two office employees[6]. The e-readiness report states that most companies do not have LAN or internet access, using stand alone computers for basic office use, such as accounting, word processing, spreadsheets, and desktop publishing[7].

Table 3. Use of computers by sector

Sector	Computer Use (%)
Garment and textile	18.74
Water	7.41
Construction	3.88
Restaurants, hotels & tourism	24.01
Information technology/electronics	68.91
Food processing	1.08
Transportation, shipping & trade	27.46
Electric power	0.55
Total	**18.83**

Source: World Bank, ibid, 2004, p.24

4.5 Universities and Institutes

Out of 40 some registered universities and 19 institutes, there are 22 universities and 3 institutes which offer ICT related bachelor degree courses, such as computer science, information technology, business/management information system, and economic informatics. ICT related course has been one of the most popular subjects next to business among Cambodians; one study suggests that approximately 11.8% of total university students enrolled in computer science course in 2001[8].

[5] World Bank, "Seizing the Global Opportunity –Investment Climate Assessment and Reform Strategy for Cambodia", 2004, p.24
[6] Center for Information Systems Training (CIST), "Presentation to the ICT Association of Cambodia", 2005, p.12
[7] ITC, "Cambodia: e-assessment report",2003, p.58
[8] Figure from JICA Expert's study on regional development of the Phnom Penh-Shianoukville growth corridor in the Kingdom of Cambodia.

4.6 Community Information Center (CIC)

Twenty-two Community Information Centers (CICs) were established with the support from USAID through the Asian Foundation in 2002, to improve the availability of information in provinces for the election in 2003. They provide access to the web portal (www.cambodiacic.org) as well as free internet access, CD-ROMs, a library of hardcopy resources, and training on how to use these resources. They are located in every provincial capital except for the municipality of Phnom Penh and Kep. The CICs were initially operated by Asian Foundation, gradually handed over to several NGOs in the locality. The sustainability of the CICs became a big challenge when USAID reduced its funding after the election.

4.7 Open Forum of Cambodia – Khmer OS

Established since 1994, Open Forum of Cambodia focuses on information exchange and communication for Cambodian people to promote democratic society and also materialize the conditions to develop democracy. It is also known as the first NGO to provide dial-up Internet connectivity in Cambodia in 1994, established the ".kh" country domain in 1996 and administered it until 1998 prior to handing it over to MPTC. Its services include email, mailing list, web-hosting, press clipping, and training.

As part of their activities, Open Forum has been involved in the standardization of Khmer script on computers, and established Khmer open source software initiative in early 2004 to develop Khmer Unicode-based free software. The initiative is called KhmerOS (www.khmeros.info) and it has partnership with NiDA. It has released a number of localized products, for example, OpenOffice 2.0, Firefox 1.5.0.1 (web browser) called Mekhala, and Thunderbird 1.5.0 (e-mail client) called Moyura. It is working on localizing Linux based operating system.

4.8 ICT related NGOs

There are a few NGOs which focus on ICT usage and skill development.

. Digital Divide Data (DDD) www.digitaldividedata.com

Established in 2001, it is a social enterprise which provides work opportunities for disadvantaged groups by providing outsourced data services, such as digitalization of data to business and public sector customers outside Cambodia.

. Center for Information Systems Training (CIST) www.cistrain.org

Funded by leading private players in IT, such as Microsoft, HP, Accenture, and Cisco System, a French NGO called Enfants du Mekong established CIST as a school for disadvantaged students to get a qualified job as ICT professionals in the country in 2005.

. American Assistance for Cambodia/Japan Relief for Cambodia

www.cambodiaschools.com
It is a NGO primarily constructing schools in remote places, funded by individuals, companies and foundations. One of its projects is called the Village Leap (http://villageleap.com/), focusing on isolated villages to be connected to the global village, by providing access to the internet. It has distributed computers to schools in the villages and introduced an innovative moto-man system to enable e-mail exchanges for students by giving temporary internet access by motorbike. The system was invented by First Mile Solutions (www.firstmilesolutions.com), founded by MIT Lab graduates. Village Leap also has several projects using ICT, such as selling silk weaving products online and providing telemedicine in two remote areas.

5. E-learning

E-learning program have been launched in Cambodia for the first time by International Institute of Cambodia (IIC) in May 2005. IIC is recognized in Cambodia as an innovative leader in providing educational opportunities in the fields of business, and Information and Communication Technologies. As part of its continuing efforts to reach out to all Cambodian learners, it has applied and combined its expertise in both of these areas to establish a distance learning program. IIC's Distance Learning Program has been developed in partnership with two other organizations - Asia Foundation and the "Sustainable Development e-Learning Network" (SDLEARN). This project was made possible with financial support provided by The Asia Foundation and the U.S. Agency for International Development under the terms of Award No. 442-A-00-96-00509-00. The opinions expressed here are those of the author(s) and do not necessarily reflect the views of The Asia Foundation or the U.S. Agency for International Development.

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Chinese Taipei Progress Report

Taipei EC/EDI Committee

2006 Country Progress Report : Chinese Taipei

SECTION I - GENERAL CONDITION UPDATE

1.1 Ranking in International Evaluations

The Swiss International Institute for Management Development (IMD) publishes an annual ranking of 60 major economies worldwide using 323 indexes to rank the economies in terms of global competitiveness. Over the last four years, Chinese Taipei has steadily improved in the rankings, from 20th place in 2002 to 17th, 12th and finally 11th place this year (2005), marking Chinese Taipei's highest ranking in the last five years. The International Data Corporation (IDC) publishes an Information Society Index (ISI) comparing 53 countries participating in the information revolution. The latest 2004 ISI index ranks Chinese Taipei 20th worldwide. Chinese Taipei also ranked 22nd in the 2005 e-readiness survey published by the Economist Intelligence Unit and IBM's Institute for Business Value. Finally, according to the World Economic Forum's (WEF) latest "Global Information Technology Report, 2004-2005," Chinese Taipei ranked 15th out of 104 nations worldwide, up from 17th place last year (2004).

These rankings strongly indicated the current accomplishment for Chinese Taipei's favorable E-Commerce environment and competitive advantage, which resulted from the governmental promotion policies and consistent strength as well as the efforts from both public and private sectors.

1.2 eCommerce Regulation update

For the purpose of promoting E-commerce and enhancing the application of electronic signature, the government of Chinese Taipei continued reviewing the "Electronic Signatures Act". The Ministry of Economic Affairs completed a draft amendment of the "Electronic Signatures Act" at the end of 2005 which is scheduled to be submitted to the Executive Yuan in 2006.

Other regulations or standard contracts regarding e-commerce that have been adopted or amended, in 2005 and early 2006, include the promulgation of "The Amendment of Internet Content Rating Regulation," "Standard Contract of Online Game" and "Guideline of Items to be Required and to be Prohibited for Standard Contract of Online Transaction."

1.3 Status of E-Commerce

1.3.1 B2B E-commerce Market

According to the "EC Legislation & Infrastructure Building-up Project" research conducted by the Department of Commerce under the Ministry of Economic Affairs, over 90% of Chinese Taipei companies had local area networks and Internet equipment in 2004. Only 8.9% of small and medium-sized enterprises while 20% of did not have corporate networks, and agricultural/fisheries/forestry/livestock companies that had not yet established Internet connections. Categories with higher proportions of value-added networks (VAN) include the financial/insurance industry (76%) and the information technology industry (75%).

Additionally, the proportion of Chinese Taipei companies that had established websites reached 85%, again led by the IT and financial/insurance industries. Even the small and medium-sized enterprise (76.1%) and agricultural / fisheries / forestry / livestock (80.0%) categories had reached approximately 80%.

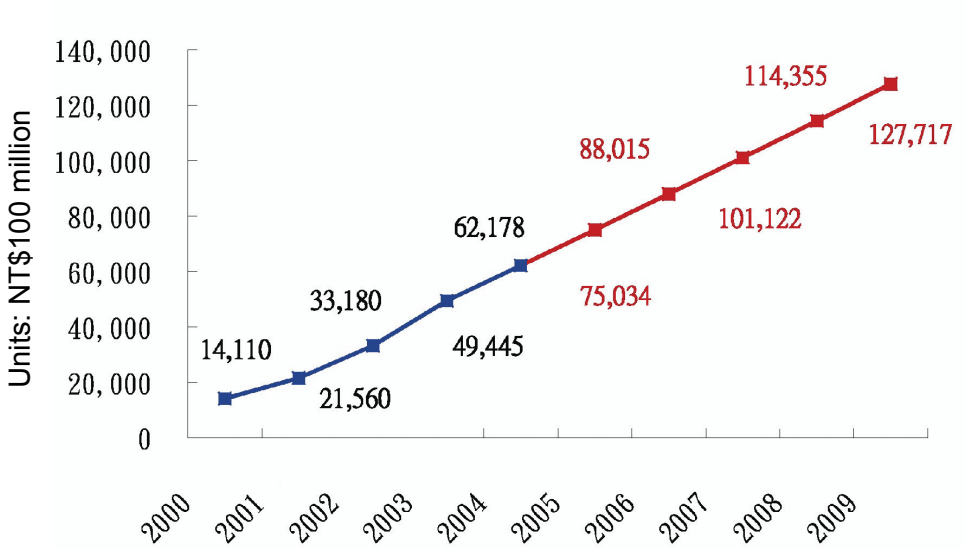


Figure 1. Projected Size of B2B E-Commerce Markets through Year 2008

Source: Department of Commerce, Ministry of Economic Affairs: "E-Commerce Environment Readiness and B2C E-Commerce Promotion Project", ACI, III, 2005

Looking at the overall market scale, Chinese Taipei's B2B market in 2000 was NT$1.411 trillion (Fig. 1). By 2004 that figure had grown to NT$6.2178 trillion. In other words, in only four years time, the market grew by 340.7% (85.2% annual average), or by NT$4.8068 trillion.

From 2005 to 2009, the market is expected to grow from an estimated NT$7.5034 trillion in 2005 to NT$12.7717 trillion in 2009. This represents a 70.2% growth over the period, or an annual average of 17.6%.

1.3.2 B2C Online Shopping Market

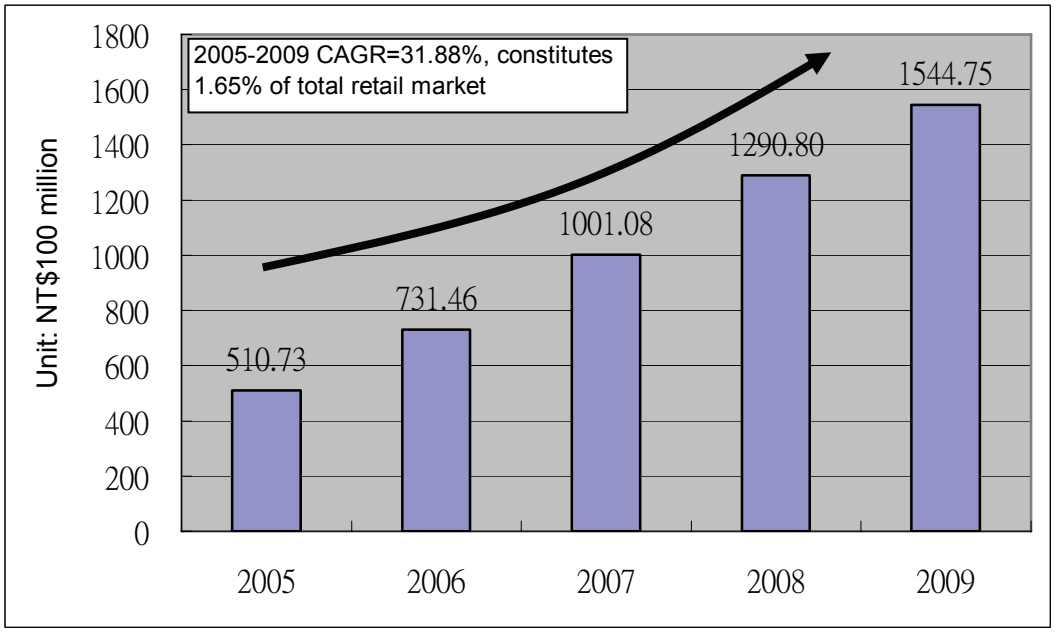


Figure 2. 2005 – 2009 Chinese Taipei Online Shopping Market Size

Source: Department of Commerce, Ministry of Economic Affairs: "E-Commerce Environment Readiness and B2C E-Commerce Promotion Plan", ACI, III, " 2005

According to estimates from the Institute for Information Industry's ACI group, 2005 domestic online purchases totaled NT$51.073 billion (Fig. 2). Forecasts for 2006 put the figure at NT$73.146 billion, and for 2009, NT$154.475 billion. Compound annual growth rate (CAGR) for 2005 to 2009 is expected to be 31.88%. Total retail market scale in 2005 is estimated at NT$3.90297 trillion, with online sales accounting for 1.65% of the total.

1.4 e-Usage

1.4.1 Internet Users

The number of Chinese Taipei's general Internet users, defined as all individuals who have ever used the Internet, had reached 13.2 million in 2005, 1 million up from 2004. The percentage of male and female Internet users was 58% for both, a higher increase in that of women than that of men from last year. In terms of age groups, those between 15 and 24 years old had the highest percentage of Internet usage. It is worth noting that there was a significant rise in the percentage of people aged over 60 using the Internet from less than 10%

in 2004 to 25%.

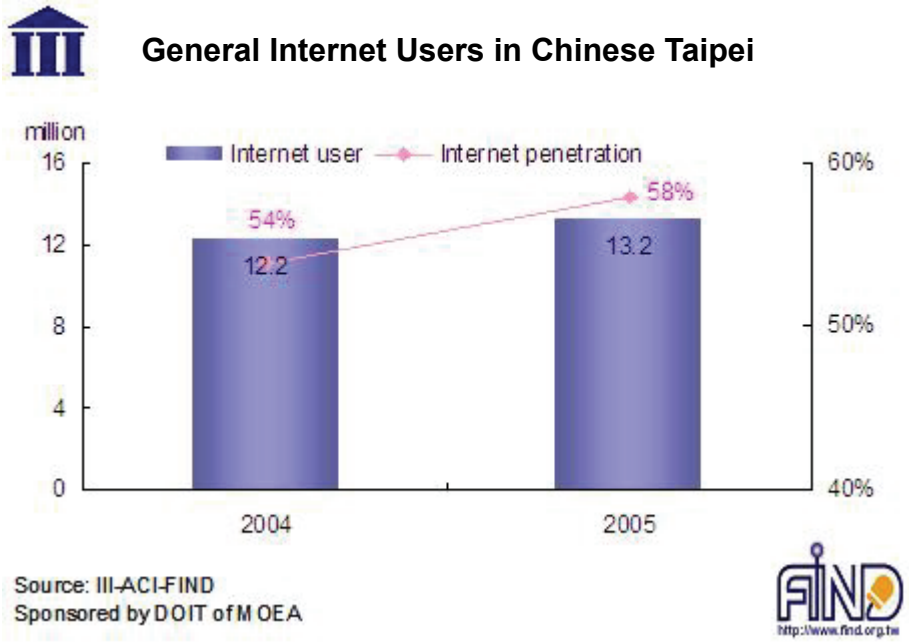


Figure 3. General Internet users and Internet Penetration Rate, February 2006
Source: FIND, ACI, III /sponsored by DOIT, MOEA

1.4.2 Internet Subscribers

According to the research conducted by IDEAS, III, there were 13.76 millions Internet subscribers in Chinese Taipei by the end of September 2005. Compared to 11.2 millions in December 2004, there is an increase of 23% growth.

1.4.3 Mobile phone subscribers

According to data published by DGT, there were 22.17 million mobile phone numbers including GSM, PHS and 3G in use in Chinese Taipei as of the fourth quarter of 2005. This represents an increase of nearly 200,000 subscribers or 1% compared to the third quarter of 2005. The mobile phone penetration rate remained more or less unchanged for the third consecutive quarter, at 97%.

1.4.4 Households Online

According to IDEAS-FIND's statistics, 67% of households in Chinese Taipei had access to the Internet and 88% of the online households used broadband Internet connections in 2005.

1.4.5 Business Online

According to the 2005 survey conducted by IDEAS-FIND of III, 83% of businesses were connected to the Internet, up from 81% in 2004. This figure represented an increase of 2% compared to 2004. Over 96% of the online business connected to the Internet via broadband access.

1.5 Taipei EC/EDI Committee

1.5.1 Introduction

The Bureau of Standards, Metrology and Inspection under Ministry of Economic Affairs established Taipei EC/EDI Committee (TEC) in 1992 to accelerate the promotion of the eCommerce Standards and Trade Facilitation as well as set up respective working group under the TEC to take charge in specific area of concerns.

1.5.2 Constitution

The General Director of the Bureau of Standards, Metrology and Inspection chairs the Taipei EC/EDI Committee. Figure 4 shows the organization chart of TEC.

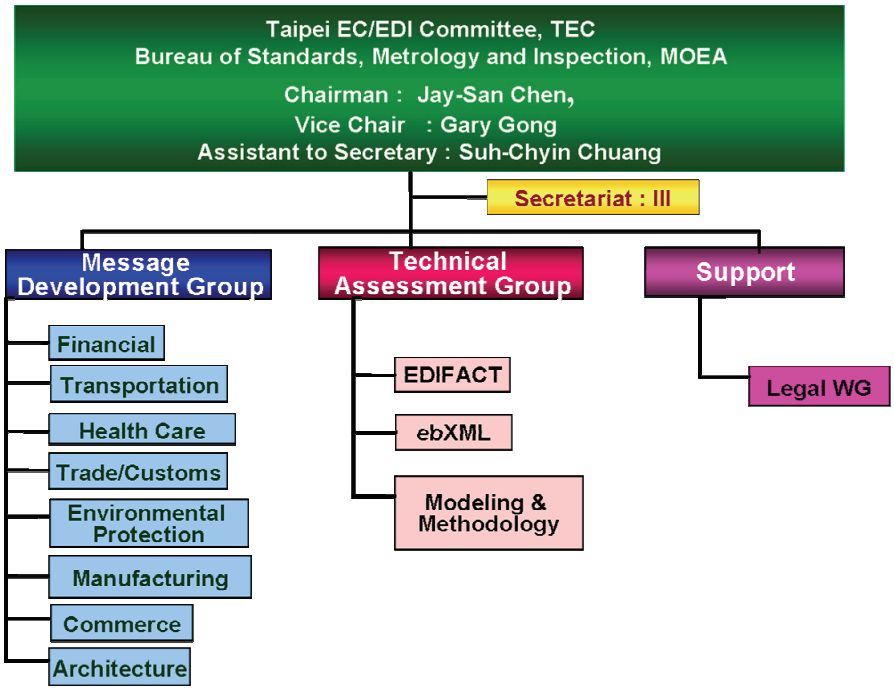


Figure 4. Current Structure of TEC *Source: TEC Secretariat, July 2006*

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 Vitamin Plan – Projects A, B, C, D and E

In 1999, the MOEA implemented two pilot projects for promoting e-Business in the IT sector – Projects A and B. The main focus of Project A and B was on e-Procurement. Project A involved helping IBM, Compaq and HP and Chinese Taipei's leading IT manufacturers to establish an e-Business supply chain covering every stage from design through procurement. In Project B, assistance was given to 15 leading Chinese Taipei's IT manufacturers and more than 1,800 of their component suppliers to establish e-Business supply chains covering the stages from procurement to manufacturing.

After the completion of Projects A and B in 2001, the MOEA began to implement Projects C, D, and E as a continuation of Projects A and B. The aim of these new projects was to ensure the provision of e-Business services covering payment, accounts receivable management, on-line financing, global inventory management, delivery tracking and collaborative design services. Project C was build on the e-Business supply chain foundations established in Project B. The main goal for Project C was to help banks solve problems that "center" manufacturers and "satellite" suppliers faced in the area of payment and collection. Project C was to provide real-time online financing service, and to establish mechanisms for achieving e-Business integration in the area of information exchange and cash flow between banks, "center" manufacturers, and suppliers. Project D focused on providing guidance for the adoption of e-Business delivery services by Chinese Taipei's IT hardware and semiconductor manufacturers and logistic service providers (LSPs), and to encourage other IT service providers to participate in the development of e-Business services that integrate delivery and information in line with industry's needs. The focus of Project E is to help companies establish an interactive model of e-Business for collaborative design with customers, suppliers and technology design partners at the new product development stage.

2.2 e-Health care Services

The rapid progress on information technology and the advent of the Internet, with its convenience, ease-of-use, and worldwide access, have enabled healthcare to move into new service models. Chinese Taipei has for many years prided itself on the universal, cradle-to-the-grave medical care that it provides for its citizens, and has notched up some impressive achievements in preventive healthcare, ensuring access to medical treatment, and the diagnosis and treatment of disease. The lifelong care model adopted by the Department of Health (DOH), Executive Yuan, is very much people-centered, with technology playing a supporting role; the adoption of this model has led to the development of a comprehensive set of e-healthcare programs. As soon as they are born, each citizen is issued with a National

Health Insurance (NHI) IC card, to facilitate the effective integration of lifelong care provision. The creation of a centralized, online service window makes it easy for the public to access the healthcare and disease prevention information that they need. Electronic Medical Records (EMRs) have been designed to meet citizens' needs when seeking medical treatment. With these e-records, all of the patient's records from previous visits to different clinics can be accessed by any hospital, giving doctors the patient information they need to make an accurate diagnosis, while at the same time ensuring that the patient's rights are protected. E-enablement also has an important role to play in both long-term care and emergency response, by ensuring the efficient flow of information, making it possible to use resources more effectively, and helping medical personnel to react immediately to changing circumstances. In the last few years, following the implementation of various medical and healthcare information service plans, Chinese Taipei has gradually built up a practical, comprehensive online health service architecture; the results achieved in this area are truly impressive.

In 2000, HL7 Association for Chinese Taipei, an accredited organization for international healthcare informatics standards development. This was followed in June 2001 by the establishment of HL7- Chinese Taipei Association, and in March 2003 by the establishment of the Medical Imaging Standards Association of Chinese Taipei. By 2005, 13 Protocol / Recommencations for HL7 Standards Specification had been drafted, and a HL7 Message Verification/Validation system had been established, along with a system for comparing international Logical Observation Identifier Names and Codes (LOINC) with Chinese Taipei's NHI-LOINC. In this way, the government hoped to deliver a solid guideline for healthcare interoperability standards.

In 2004, DOH began work on the electronic format standards for medical records. By June 2005, pilot projects with standard components/format for the EMRs had already been completed for outpatient, emergency and inpatient medical records, and work was continuing on the standard formats for specific medical specialties. DOH has also been providing technical consulting service to help hospitals overcome any problems they may encounter when implementing these formats. The standard format for electronic medical record offers several advantages: it conforms to regulatory requirements, has been designed to meet the special needs of hospitals and clinics in Chinese Taipei, conforms to the international HL7 CDA 2.0 standard, and provides first-rate portability (thanks to the use of XML technology).

Comparison of the results obtained in the Survey of Electronic Medical Record Adoption in Hospitals and Clinics surveys (covering all hospitals in Chinese Taipei and 25% of all clinics) implemented by DOH in 2002 and 2005 showed that, following three years of effort during the period 2002 2005, by 2005 EMRs were in widespread use, and the majority of hospitals had achieved impressive results with their introduction. Around 50% of hospitals had reached at least Level Two in e-record adoption, and 40% had reached Level Three or higher. Level Three represents effective integration of information systems with data. Medical facilities in

Chinese Taipei have thus already established a solid foundation for further development in electronic medical record adoption. Hospitals have already achieved intra-hospital integration of information systems and medical records, and are now moving on to the next stage: sharing and exchanging records with other hospitals.

SECTION III – Trade Facilitation / eBusiness / eCommerce Related PROJECT UPDATES

This section depicts the current state and future development trend of various standard related projects that are carried out by respective working groups under the Taipei EC/EDI Committee.

3.1 Manufacturing

The e-Business standards in seven manufacturing industries were developed and implemented in 2002 with budget from Industrial Development Bureau (IDB), Ministry of Economic Affairs (MOEA). These industries are the textiles, pulp & paper, automobile, heavy electronics, iron & steel, petrochemicals, and machinery industries. During the project period, 14 business process standards, 30 document standards, 2 vocabulary standards, and 4 classification standards were accumulatively developed, and about 143 companies implemented and applied document standards in business process of ordering, purchasing and shipping in a total of 20 systems. (Table 1)

Table 1. Summary of e-Business Standards Implemented and Applied by industries in 2002 (Source: IDB, MOEA)

Industry	Process Applied	Standards implemented	Standards Developed
Textiles (RN-like)	Fabric dying, finishing process operations	Dying/finishing notice, shipping notice	▪ Process standard: packing specification notice ▪ Document standard: dying/finishing notice, muslin finishing, shipping notice, packing specification notice

Industry	Process Applied	Standards implemented	Standards Developed
Petrochemicals (CIDX)	Order operation client-end	Ordering, response, modification, cancellation, response, tracking, and response	▪ Process standards: Client registration process, demand forecasting process, supply planning/demand planning process ▪ Document standards: Qualification application, qualification response (customer management operation), demand forecasting, demand forecasting response, demand planning, demand planning response (supply management operation)
	e-Catalog operation	Product catalogue update, particular client catalogue update	
Machinery (RosettaNet)	Purchasing operation on supplier's end	Enquiry, quote, purchasing order, tracking, modification, and cancellation	▪ Process standards: Enquiry, quote, purchasing order, tracking, modify, cancellation ▪ Document standards: Enquiry, quote, purchasing order, tracking, modification, cancellation
Pulp & Paper (PapiNet)	Order management operation from client end	Ordering, order confirm	▪ Document standards: Shipping indication, shipping notice
Automobile (OAGIS)	Manufacturing management operation from supplier end	LT component demand plan, ST component demand plan, shipping indication, receipt QC	▪ Process standards: Ordering, payment specification ▪ Document standards: Order, payment specification Note: LT = Long term ST = short term QC = Quality Control
		Shipping indication, Receipt QC	
		Shipping indicator, ST component demand plan	

Industry	Process Applied	Standards implemented	Standards Developed
		Shipping indication, receipt QC	
		Shipping indication, receipt QC, return notice	
Heavy Electronics (OAGIS)	Purchasing operation from supplier end	Enquiry, quote, order form, order confirmation	▪ Process standards: order process ▪ Document standards: order cancel, order modify
Iron & Steel (isXML)	Order operation from client end	Order form	▪ Process standards: Order process ▪ Document standards: enquiry, quote, order confirm, order form/ dispatch notice ▪ Classification standards: stainless steel plates/hot-rolled stainless steel/cold-rolled stainless steel, stainless steel rod/ steel wire, galvanized & painted steel wire, concrete reinforcement bars ▪ Vocabulary standards: particular terminology for iron & steel industry, business related terminology
	Distribution operation from client end	Shipping notice, quality certification, non-radiant certification	
Total		Document standards: 36	Process standards: 14 Document standards: 30 Classification standards: 4 Vocabulary standards: 2

In 2003, the budget supported by IDB assisted two benchmark industries, heavy electronics and machinery, to develop e-Business standards application. Moreover, seven major domestic manufacturers of benchmark industries were in cooperation with their upstream and downstream to implement the e-Business standards. The application of e-Business standards included enquiry, quote, order, shipping, quality control and payment of e-Business standard items.

Also, five user-groups were supported by the IDB to develop the plan of e-Business standard application, including the industries of heavy electronics, machinery, filament weaving, iron & steel, and pulp & paper. There were five primary industrial associations carrying out these plans, including Association of Machinery Industry, Electrical & Electronic Manufacturers' Association, silk & Filament Weaving Industrial Association, Paper Industry Association, and Steel & Iron Industries Association.

The professional training courses and discussion for the industries in the fields of e-Business standards application were provided as well, the courses focusing on XML, UML, ebXML, and etc. There were sixteen courses held in Taipei, Taichung and Kaohsiung with more than 180 participants.

In 2004, IDB learned that the environment for e-Business standards application was getting more and more mature, and expanding standards users in any manufacturing industry was a key success factor for the development of e-business in the future. IDB decided mainly to support industrial users who can commit themselves to implement e-Business standards. Machinery and filament weaving industries have been applied and got sponsorship to implement e-Business standards they have developed these years and keep maintaining standards as well.

"e-Business standards implementation project for machinery industry, 2003~2006" was organized by Precision Machinery Research & Development Center (PMC). User group members are Falcon Machine Tools, Anderson, Fu Sheng Industrial, Fu Chun Shin Machinery Manufacture, Victor Taichung Machinery Works, and Tung Pei Industrial. Chinese Taipei's biggest Motor-driven tools manufacturer, Rexon Industrial was joined in 2005. They set up 28 machinery industry e-Business standards and these seven companies invite over 220 suppliers to use peer-to-peer TAMIvas turnkey solutions. The feature of machinery industry is that they set not only document standards but transmission protocol to improve data communication efficiency. (Table 2)

Table 2. e-Business Standards In Machinery Industry (Source: IDB, MOEA)

No.	Cluster	Segment	*PIP*
1	2A	2A1	New Product Information Notification
2	3A	3A0.1	Inquiry Apply Request
3		3A0.2	Inquiry Apply Response
4		3A1.1	Price And Availability Request
5		3A1.2	Price And Availability Response
6		3A4.1	Purchase Order Request
7		3A4.2	Purchase Order Response
8		3A8.1	Purchase Order Change Request
9		3A8.2	Purchase Order Change Response
10	3B	3B0.1	Shipment Notification Request
11		3B0.2	Shipment Notification
12		3B2.1	Shipment Receipt Request
13		3B2.2	Shipment Receipt Response
14		3B2.3	Quality Notification
15		3B18	Shipment Delivery
16	3C	3C0.1	Remittance Advice Notification
17		3C0.2	Remittance Advice Response
18		3C3	Accounts Checking Notification
19		3C5	Billing Statement Notification
20		3C6	Payment Notification
21	4C	4C1.1	Inventory Status Query
22		4C1.2	Inventory Status Response
23	6C	6C1.1	Support Service Request
24		6C1.2	Support Service Response
25	7C	7C1	Manufacturing Genealogy Query
26		7C2	Manufacturing Genealogy Notification
27		7C4.1	Quality Incident Notification
28		7C4.2	Quality Incident Response

Silk & Filament Weaving Industrial Association and Textile Federation organized "e-Business standards set-up pilot project for filament industry, 2004~2005". User group members are Wisher Industrial, Sumagh High Tech, Tai Yuen Textile, Far Eastern Apparel, Everest Textile, Li Peng Enterprise, Formosa Taffeta, and Taffeta Fabric. They have setup 16 filament industry e-Business standards, such as order request/response and order change request/response. 4 supply chains had implemented the standards and passed the pilot test. They also came out detailed plan for platform operation and profitable business model in the near future.

"User group" for e-Business standard application has been proven as a very good strategy, especially in machinery and filament industry. For small and medium size enterprises, both platform and peer-to-peer solutions can save them a lot when they exchange business information with more than one customer. Big companies' buying force can also drive SMEs invest money without pain. After information flow related industrial standards have been set up and implemented, these two industries are going to make some plans about involving cash flow and logistics flow in their existing standards to enhance their competitiveness.

3.2 Commerce

3.2.1 The Achievement of e-Business Consulting in B2B for Chinese Taipei Distribution Services Industry in 2005

In order to create high additional value and efficiency for Chinese Taipei distribution services industry, the Department of Commerce, Ministry of Economic Affairs, launched the "The Sectors of Electronic Commercial Promotion Plan" and "The Electronic Commercial Pioneer Promotion Plan" to integrate upstream and downstream enterprises in the distribution services industry. The government anticipates that both of the plans can assist the distribution services industry in re-structuring the business processes, strengthening or integrating the marketing channels. What is more, the enterprises can also sort out the proper operation processes, collaboration model or industrial horizontal strategic alliance, and then target the application of the most appropriate e-Business Model in its operation. Finally, the full e-business solution of industrial value chain can be established.

The "Sectors of Electronic Commercial Promotion Plan" aims to drive the integration and collaboration between supply chain and demand chain. It provided consultation for 36 enterprises in distribution services industry and 3,182 enterprises applied B2B e-business solution in 2005. The benefits include integrating diverse resources, enhancing the operating efficiency of value chain, and consolidating customer relationship. Table 3 depicts the e-business development among different businesses in 2005：

Table 3. The main e-applications of different businesses for distribution services in 2005

Business	The number of counseled enterprises	The number of co-operative enterprises	Major e-Business application list
3C Distribution Services	1	93	1.Maintenance Service Management 2.Enterprise Resource Planning
Food and Commodity Services	6	712	1.e-Order Management 2.e-Accounting Management 3.Supply Chain Management
Cosmetics and Medicine Services	3	642	1.M-Commerce 2.Inventory Management 3.Supply Chain Management
Publishing Audio and Visual Services	2	434	1.Customer Relationship Management 2.Portal 3.e-Learning
Tourism Services	5	329	1.e-Order Management 2.Inventory Management 3.Customer Relationship Management
Tailoring	1	33	1.e-Order Management 2.Inventory Management 3.Supply Chain Management
Logistics	5	269	1.e-Order Management 2.Portal 3.Inventory Management
Food & Beverage Services	4	141	1.e-Procurement Management 2.Supply Chain Management 3.Inventory Management
Shoes	1	60	1.e-Order Management 2.POS 3.Inventory Management
Furniture	2	193	1.e-Accounting Management 2.Portal
Auto Components	1	50	1.Decision Support System 2.e-Order Management 3.Maintenance Service Management
Other Distribution Services	5	226	1.Portal 2.Inventory Management 3.e-Procurement Management
Total	36	3,182	

In addition, “the Electronic Commercial Pioneer Promotion Plan” makes efforts in increasing the industrial international competitiveness and assisting the enterprises in linking with the global supply chains. 6 enterprises carried out the innovative, large-scale or international projects obtaining consultation in 2005. 5 of them integrated 213 upstream and downstream enterprises as well as connected the value chain in accordance with the CPFR guidelines. Besides, 4 of them have linked the global supply chain successfully. Table 4 is the industrial benefits that resulted from the 6 projects:

Table 4. The achievement of e-business consultation for distribution services in 2005

Enterprise	Industrial Benefits
Watson's Personal Care Stores (Chinese Taipei) Co., Ltd.	It is the first CPFR model in the global Watson’s companies.
Hotai Motor Co.,Ltd.	It adopts the customer-oriented multi-dimension collaborative method, including maintenance, insurance, and supply chain.
Test-Rite International Co.,Ltd.	It replaces the overseas importers, links with the selling system of Wal-Mart, and increases the information transparency of supply chain.
Poya Co.,Ltd	It is the first retailer introducing the CPFR guidelines and driving category management to all branches in Chinese Taipei.
K.H.S. Musical Instrument Co.,Ltd.	It establishes an innovative model to obtain the global selling information through overseas distributors.
Jaui Ping Computer Information Co.,Ltd.	It integrates the virtual channel and real logistics, and then builds the 24 hours delivery of online shopping in 3C distribution services.

3.2.2 Achievement of "Chinese Taipei e-Logistics Initiative" in 2005

To promote and support Logistics Service Provider (LSP) to enlarge business scale and service coverage, the Ministry of Economic Affairs led and sponsored the "Chinese Taipei e-Logistics Initiative". The Ministry encourages the logistics industry to create effective supply chain integration by forming strategic alliance and strengthening relationship among members of the industry, so as to establish a globalized, integrated and large-sized innovative business model and successful best practice.

In 2005, Department of Commerce supported 17 e-logistics projects, including 2 alliances, 3 third-party e-logistics hubs and 12 private e-logistics hubs. 696 LSPs have joined theses e-logistics hubs to perform freight document exchange, rate request & quotation, real-time cargo tracking, and billing process electronically. The government's e-logistics initiative has significantly enabled LSP to exchange freight information efficiently, and provide timely shipment and inventory visibility for shippers and consignees. In addition, the e-logistics initiative has increased non-governmental investment by 251 hundred million. It essentially helps to upgrade the level of service as well as the competitive edge of Chinese Taipei LSPs. The e-service functions that e-Logistics Hubs provide are illustrated in Table 5.

Table 5. The e-service functions of e-Logistics Hubs in 2005

e-service functions	Type of e-logistics Hubs	No. of supported Hubs	*Company Name*	No. of participated LSPs
1. e-Document 2. e-Booking 3. Vendor Managed Inventory 4. Truck Management 5. Cargo Tracking 6. Co-load system 7. e-Billing system 8. Reverse Logistics	Alliance	2	1. Dimerco Express Corp. 2. Taiwan Express Co., Ltd.	169
	Public Hub	3	1. Prolink Solution Co., Ltd. 2. Toplgis Tech. Co., Ltd. 3. Amass Supply Chain Integration Co., Ltd.	293

e-service functions	Type of e-logistics Hubs	No. of supported Hubs	*Company Name*	No. of participated LSPs
	Private hub	12	1. Round-the-World Logistics Co., Ltd. 2. Everbest Int'l Freight Forwarding Co., Ltd. 3. Forward Express Ltd. 4. E&E Transport Int'l Co., Ltd. 5. Bester International Transportation Co., Ltd. 6. Symaton World Freight Cargo Co., Ltd. 7. YFC Group 8. Startlink Group 9. Utmost Freight Service Co., Ltd. 10.Dah Shuenn Customs Broker Corp., Ltd. 11.China Transportation Service Ltd. 12.Ta San Hong International Container Terminal Corp., Ltd	234

Besides, to facilitate the e-logistics adoption islandwide, Department of Commerce has developed 59 XML standard documents for logistics operations, fully complying with United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) ebXML specifications. Until 2005, the standard documents have been adopted by 740 LSPs. This infrastructure will not only expedite the deployment of e-logistics service among Chinese Taipei LSPs, but also ensure the interoperability with global logistics community in the near future.

3.3 Environmental Protection

Environmental Protection Administration（EPA）has been developing environmental -related data standards. The preliminary results can be shown in three ways:

Establishing unity codes for domestic rivers, creeks, administrative areas, and industrial areas, etc.

Standardizing the use of environmental geographic layer formats and coordinates.

Promoting standard information exchange between various emission reporting systems and the EPA's Environmental Database. Three systems will be completed by the end of this year.

In order to give unanimous definition to basic environmental vocabulary, EPA starts an effort to translate the General Multilingual Environmental Thesaurus, GEMET, which is published by Europe environmental headquarters. This includes of giving more than 5,000 environmental vocabularies their standard Chinese definitions. 2,500 records had been translated and released last year. The entire task should be completed by the end of this year. Upon finishing this fundamental translation work, future environmental information communication and exchange with precision will be possible.

Another newly established information exchange web service using XML protocol provides users with the latest environmental air monitoring information. This application facilitates authorized scholars and researchers to obtain reliable first hand air monitoring data from 76 air monitoring stations around the island.

The Information Classification Act promoted by Executive Yuan this year has led to the completion of the structure for environmental information, also known as "Environmental Knowledge Classification Tree" (EKCT). Most of EPA's environmental relevant files will be stored and classified according to the EKCT structure. The goal to employ the knowledge tree structure is hoping to facilitate efficiency in managing, sharing and exchanging the environmental information among organizations and institutes.

3.4 Transportation

3.4.1 The Ministry of Transportation & Communications (MOTC) launched the "Maritime Transportation Net (MTNet)" since 2002, which acts as the integration architecture to be a key channel for business parties' information exchange of marine transport and seaport stevedoring. Figure 5 shows the current structure of MTNet.

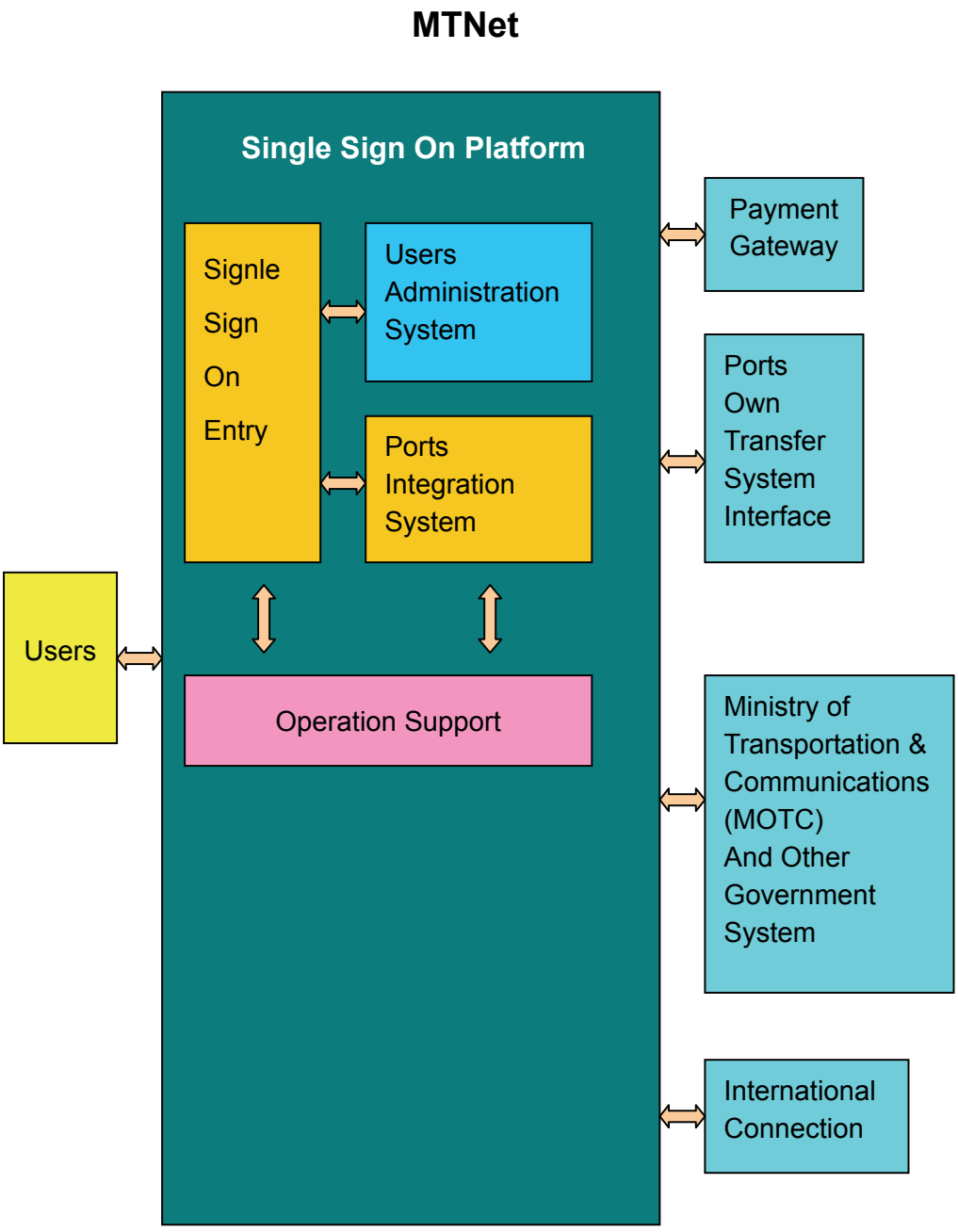


Figure 5. Structure of MTNet

3.4.2 The “Single Sign On System” is carried out under the MTNet, and produced for users such as Vessel Operating Carriers and Shipping Agencies for the convenience of sign on once and uses in the whole process. Users do not need to sign on again when they are still in use. We expect this system to have over 1000 users. We continue enhance the log function of the system and promote more user this year.

3.4.3 The ”e-Payment and e-Invoice system” is implemented under the MTNet for developing a network service application which users are able to complete payment operation in a single application entry point. This year, Kaohsiung port, Hualien port and Keelung port on line will promote more user and Taichung port on line will adopt this system.

3.4.4 The “Free Trade Zone (FTZ) Container Trace System” of MTNet will offer users to trace and query the status of their containers. Currently, Kaohsiung port, Keelung port, Taichung port, Taipei port and CKS International Airport have been permitted as FTZ. The System will starting implementation this year.

3.4.5 The “Port Area Container Entrance/Exit Control System” of MTNet has already completed the following goals by the end of 2005.

- Auto control cars that check in or check out in the port area.
- Administrate records of cars and people that go in or go out the port area.
- Build an auto check system for container drivers to go in or go out the port area.
- Reach the goal of auto operation system.

3.4.6 The “Navigation Administration Control” of MTNet will use Business Process Reengineering (BPR) method to build a “customer orient” administration system to save the time of application process. We implemented four processes last year. We will implement more processes this year.

3.4.7 The "Free Trade Zone (FTZ) News System" of MTNet will offer users view and search all the news related to the FTZ on line.

3.5 Customs

Chinese Taipei Customs has developed EDI messages for sea cargo and air cargo full-scale automation since 1994. With the firm and stable foundation of EDI system accompanied by other important measures to simplify Customs procedures, the Customs stakeholders enjoy facilitative and rapid Customs clearance. For those cargoes without document review and physical examination, the average release time has minimized to 3 minutes from the moment the Customs accepts the declarations transmitted from Vans or Customs' website. Customs clients can also easily retrieve the clearance related data from Customs' website.

After two years' planning and construction, the Customs and the licensing authorities completed an ebMS gateway mechanism in August 2005. Through this gateway, the public may apply for the import/export licenses/certificate to the Bureau of Foreign Trade, Bureau of Animal and Plant Health Inspection and Quarantine under the Council of Agriculture, and Bureau of Standard, Metrology and Inspection, while using the same data making declaration to the Customs. Although the system adopts ebXML, the Customs' former EDI system will still work until all the customers' systems have transferred to the new platform. The ebMS gateway project have reduced 5 percents of declarations needed to be document reviewed, which means the bypassed declarations have increased 5 percents accordingly. That results in the reduction of Customs release time.

This year the Customs continually launched two major projects to further serve the Customs clients and enhance the cooperation with the other government agencies. One project is the e-payment system over Internet, which officially went on line in February 2006. Customs duty and taxes can be paid over Internet with credit card or using banks' account. The transactions have been doubled month by month for first three months (1000+, 2000+, 5000+ for March, April, May respectively). The estimate of growth is optimistic and continuous. The other important project is to exchange data regarding imported cars with Environmental Protection Administration and Motor Vehicle Supervision office on a new platform. Certificate of duty-payment and duty-exemption become paperless. The procedures for issuing car licenses are therefore simplified.

By continually modernizing the information system and keeping track of the progress of international standards development, the Customs also makes every effort to offer secure environment for the users of Customs systems. In March of last year, the Customs was granted with certificate issued by the British Standards Institution on compliance with the

criteria of BS 7799:Part 2:2002 specification for Information Security Management Systems regarding Clearance System, EDI System, etc. With the passage of the above verification, the Customs is destined to create more favorable and secure information environment for both of the Customs officers and the traders in the trend of globalization and liberalization.

3.6 Finance

3.6.1 Current Status of FEDI Standards Application:

Refer to UN/CEFACT/EWG electronic data exchange standards:

Application System	Related Messages	Indexes
Payment process	PAYEXT、CREEXT、DEBADV、BANSTA、AUTACK	D.95A
Control	CONTRL	D.94W
Cross-bank payment process	FINPAY BANSTA	D.95 Draft D.95A
L/C process	DOCAPP、DOCINF、DOCADV、BANSTA、DOCAMR、DOCAMI、DOCAMA、DOCARE、AUTACK	D.95B
Lump-sum payment process	PAYMUL、DIRDEB、DEBMUL、CREMUL、BANSTA、FINPAY、CREMUL	D.95A
Foreign currency payment process	PAYEXT、CREEXT、DEBADV、BANSTA、AUTACK	D.95A
Notice process	APERAK	D.95A

3.6.2 Current Status of Finance development using EDI:

Subscribers:

- Financial organizations: 32
- Value-added network/banks: 23
- Clients: more than 8000 users in the field of Electric、Information Service、Transport、Trade、Medicine、Pharmaceutical Industry、Chemical Industry、Finance and so on.

3.6.3 Transaction Volumes:

- In 2005, the average monthly transaction through FEDI reaches 439,354 transactions and the average monthly amount is 498,351million NT dollars.
- In 2005, the average monthly cross-bank transaction through FEDI reaches 221,259 transactions and the average monthly amount is 292,976 million NT dollars.

3.6.4 Message Development of XML Standards:

Regarding the development of e-Commerce financial messages, the following XML messages are designed for electronic data exchange between clients and banks. The messages are based on IFX (Interactive Financial Exchange) XML Implementation Specification v.1.4.

Base services:	Service Account Inquiry Request/Response
	Service Profile Inquiry Request/Response
Bank services:	Account Inquiry Request/Response
	Balance Inquiry Request/Response
	Deposit Account Statement Advise Request/Response
	Deposit Account Transaction Inquiry Request/Response
Pay services:	Payment Add Request/Response
	Checksum Add Request/Response
	Payment Modification Request/Response
	Payment Cancellation Request/Response
	Payment Audit Request/Response
	Payment Synchronization Request/Response
	Payment Inquiry Request/Response
Account aggregation:	Balance Inquiry Request/Response
	Deposit Account Statement Advise Request/Response
Financing/Factoring:	Credit Line Add Request/Response
	Reimbursement Account Add Request/Response
	Reimbursement Account Modify Request/Response
	Reimbursement Account Cancel Request/Response
	Reimbursement Account Inquiry Request/Response
	Account With Bank Modify Request/Response
	Account With Bank Inquiry Request/Response
	Financing Bank Inquiry Request/Response

Credit Line Inquiry Request/Response
Financing Document Add Request/Response
Financing Document Cancel Request/Response
Financing Document Input Request/Response
Document Inquiry Request/Response
Financing Document Verify Request/Response
Financing Document Inquiry Request/Response
Draw Down Add Request/Response
Draw Down Cancel Request/Response
Due Payment Notice Request/Response
Reconcile Input Request/Response
Supplier History Inquiry Request/Response
Notification: Financing Synchronization Response
Notification: Payment Synchronization Response

Funds Transfer: Transfer Add Request/Response
Transfer Synchronization Request/Response
Transfer Audit Request/Response

The Bill Presentment Service:
Biller Inquiry Request/Response
Bill Inquiry Request/Response
Bill Status Modification Request/Response

The Bankers Association of The Republic of China participates in IFX activities actively - not only participating in Banking /Branch banking / Web services working groups also represents in the Steering Group. We wish to introduce IFX standards into Asia to help promoting electronic data interchange between trading partners and facilitate e-business.

3.7 Health Care

The following is the current status report on the Medical Information Standards Plan of HL7 (Health Level Seven) and the implementation of EMR (Electronic Medical Record) format setting under the health care working group.

1. Assisting the HL7 association with implementation of promotion work:

- Establishing「Food Sanity Information Management System」Information Exchange Platform.
- Establishing HL7 Message Certification System and International LONIC

Code Operation System..

- Publishing 「The EMR Referral Standards White Paper of HL7/XML」.
- The 6th HL7 International Affiliates Meeting and the 4th Asia-Pacific HL7 Conference on Healthcare Information Standards Conference were held in Taipei with participants of 230 people on 21st to 23rd of July, 2005.
- Held 2005 Medical Informatics Symposium in Chinese Taipei with participants of 363 people on 11th to 13th of November, 2005.

2. Implementing the "Healthcare Information HL7 Standard 2005 to 2006 Task Force Project"

   - To expand and maintain HL7 Message Certification and Index System, and LONIC Information Maintenance System.
   - To hold conferences on international healthcare information exchange standards and to plan free HL7 technical training courses.
   - To establish the standard format and mechanism of「Medical Management System」 Information Exchange Content.

3. Implementing the "Project of the Basic Content Format Establishment, Trial and Information Exchange of Electronic Medical Record (EMR) for various wards"

   - To establish various formats of EMR exchange standard according to the needs of different wards for medical industry and national-wide hospitals and clinics to follow.
   - To provide consultancy of implementing established Basic Content Format of EMR and practically set up and exchange the EMRs between hospitals for 3 demonstrating hospitals.
   - To establish consultancy mechanism for providing consultancy with real-time service and accessibility to hospitals which integrate and apply the Basic Content Format of EMR, and increase the offer technical supports required for the implementation of EMR Information System; hence the number of issues and problems during implementing EMR in hospitals are designated to decrease.

3.8 Construction and Planning

The Construction and Planning Agency (CPA) of Ministry of Interior Affairs has started to initiate the development of information exchange standards for the construction industry since 2002，and continuously subsidized twenty construction companies to help them develop web-based SCM (Supply Chain Management) systems. Which acts has to coordinate these efforts and ensure effective procurement information exchange between different supply chains, the CPA also followed UN/CEFACT naming rules （UN/CEFACT-ebXML Core

Components Technical Specification 2.0） and developed 12 schemas including Company Information, Request For Quotation, Quotation, Purchase Order, Order, Delivery Notice, Delivery, Rejection Note, Adjustment Detail, Material Receipt, Payment Application and Payment Note. Not only the 12 schemas, but also the Public Construction Commission (PCC) of Chinese Taipei this year newly-increased developed a Daily Work Report schema for the construction industry.

Therefore， to ensure a continuous effort for developing information exchange standards for the construction industry, the CPA also coordinate the experts in the private sectors and help to establish the first non-profit private organization specifically for developing and promoting construction information standards with the name of “Taiwan Association for Construction Information Standards” (TACIS). The primary objectives of the TACIS include coordinating development efforts for information standards in the construction industry, consulting upon and promoting the developed standards. Figure 6 shows the organization structure of the association.

The directorate committee is the main decision maker of the association, with the help from the executive committee that initiates the proposals. The executive committee is consisted of two task groups, namely Technical & Review Task Group (TTG) and Promotion Task Group (PTG). The TTG is responsible for drafting schemas and related standard documents, and review its standards or standards proposed by other organizations or related industries. The TTG is also responsible to ensure that the standards conform to UN/CEFACT published standards. The PTG is responsible for promoting the application and implementation of the published standards by holding seminars and providing training materials on the web site.

Otherwise，The Public Construction Commission (PCC) has stipulated 10 sets of XML-based information exchange standards for G2G and G2B in the construction industry. Among the standards, the eTender standards have been formally announced for execution, and also pilot implementation has been conducted for the rest of nine standards. Such implementation has resulted in tremendous benefits.

The information exchange standards as the infrastructure of the information technologies in the construction industry has been established in both private and public sectors. We expect a broader and deeper application of these standards in the future through the cooperation of the government, association, and construction companies.

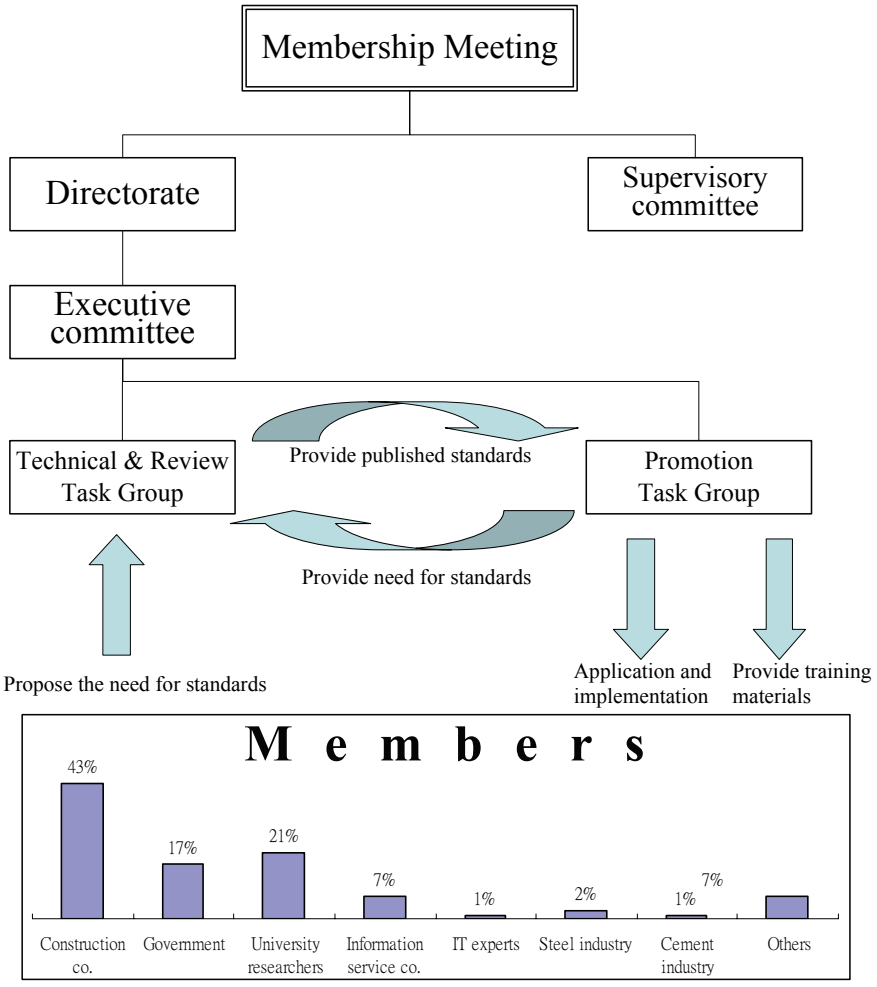


Figure 6. Organization structure of TACIS

INDIA Progress Report

eTrade Division
Department of Commerce
Ministry of Commerce & Industry
Government of India
New Delhi

2006 Country Progress Report : INDIA

SECTION I - GENERAL CONDITION UPDATE

1.1 Electronic Commerce(EC)/Electronic Data Interchange (EDI) Users

The E-commerce Industry in India has come a long way since its early days. Market is maturing fast and new players are entering the market space every day. Exciting growth is seen in the sectors like retail on Internet. This has resulted in numerous choices for end users to buy from. In the present dynamic scenario e-commerce market in the B2C space is growing in demand as well as in service range. The B2B market on the other hand is also re-inventing new business models and has already begun to offer end-to-end e-commerce platform for the entire business cycle. It is also seen that vendors are expanding their service-mix and adopting new business models, which are forced by the users.

Indian Information Technology (IT) and IT enabled services (ITES) industry continues to chart remarkable double-digit growth for the last many years in succession and is expected to exceed USD 36 billion in annual revenue in FY 2005-06, a growth of nearly 28 per cent. Services (IT-ITES) exports, accounting for nearly two-thirds of the total, are estimated to grow by 32 per cent. Leading publicly listed players have reported a top line year-on-year growth of nearly 34 per cent, over the first half of the 2005-06 fiscal.

IT-ITES exports from India grew from USD 13.3 billion in FY 2003-04 to USD 18.2 billion in FY 2004-05. It is estimated that total IT-ITES exports from India had exceeded USD 23.9 billion in the fiscal 2005-06.

1.2 Legal Issues

The information technology act was enacted in 2000 to provide legal recognition for transactions carried out by means of electronic communication, which facilitate electronic filing of documents with the Government agencies.

The Industry Association, National Association of Software and Services Companies (NASSCOM), under its Trusted Sourcing Initiative has been working very closely with Police Organizations in India, helping to train them in Cyber Safety and Cyber Crime Investigations. To facilitate this, NASSCOM and Police organizations have set up Cyber training labs in Mumbai and Thane. Similar Cyber Labs are being planned in more cities all over India, including Bangalore, Delhi, Hyderabad, Pune and Kolkata.

1.3 EC Market size & Growth

The worldwide number of Internet users has surpassed 1 billion in 2005 up from only 45M in 1995 and 420M in 2000. The 2 billion Internet users milestone is expected in 2011. Much of current and future Internet user growth is coming from populous countries such as China, India, Brazil, Russia and Indonesia. India is now in 4th place in Internet users.

Top 15 Countries in Internet Usage		
Year-end 2005:	**Internet Users (#M)**	**Share %**
1. USA	197.8	18.3
2. China	119.5	11.1
3. Japan	86.3	8.0
4. India	50.6	4.7
5. Germany	46.3	4.3
6. UK	35.8	3.3
7. South Korea	33.9	3.1
8. Italy	28.8	2.7
9. France	28.8	2.7
10. Brazil	25.9	2.4
11. Russia	23.7	2.2
12. Canada	21.9	2.0
13. Indonesia	18.0	1.7
14. Mexico	16.9	1.6
15. Spain	15.8	1.5
Top 15 Countries	750.0	69.4
Worldwide Total	1,081	100

Following are various stats, facts and figures on telecommunication, internet and e-commerce in India:

Number of Internet users in India: 2004:	25 million
end 2005:	50.6 million
Number of internet subscribers in India:	6.13 million (Jan. 2006)
Broadband subscribers in India:	835,000 (Jan 2006)
Number of internet cafes in India:	105,000 (Nov 2005)
Annual growth in cybercafe market in India:	45 % (average over past 5 years) (Nov 2005)
Estimated value of total e-commerce market:	265 million USD (Jan 2006)
Estimated growth of e-commerce market:	517 million USD by 2006-07
Number of mobile phone users, end of 2005:	76 million
Average new mobile phone connections:	around 3 million per month
Government target for mobile phone:	200 million by 2007 subscriptions
Growth in cell phone market 2000-2005:	almost 2,700 %
Number of total new phone connections:	32 million (includes mobile in 2005 + fixed line)
Number of fixed telephone line users 2005:	49 million (Jan 2006)

SECTION 2 – EDIFACT/ebXML/XML BASED STANDARDS DEVELOPMENT

2.1 Message Development Activities

To standardize the message exchange of Port Trusts with community partners like exporters/importers, agents, forwarders, shipping lines, banks a web based uniform system is being worked out for all the major Ports in India under Indian Ports Association (IPA).

2.2 Awareness and Education Programs

To build a risk-free environment, conducive for business transactions and thereby promote a culture of Information Security, the Information Technology Association of America (ITAA) and NASSCOM hosted the India-US Information Security summit in New Delhi from January 18-19, 2006 - "India and the United States: Protecting the Critical Information Infrastructure Alliance". The conference aimed to compare both BPO and client enterprise needs in each main element of information security – people, process and technology -- and highlight best practices and opportunities for further cooperation at the enterprise and national levels for improving the global challenge of information security.

ICT & Network Security India 2006 was held in New Delhi from March 12–14, 2006. It provided the largest range of sourcing opportunities, information updates and educational forums, tackling the key technology issues that affect business. It provided essential platform for organisations that deploy, develop or investigate security solutions and focused on key issues related to information and network security, market trends, issues and challenges of the security market.

SECTION 3 – Trade Facilitation/eBusiness/eCommerce Related PROJECT UPDATES

3.1 Regulatory Sector

3.1.1 Directorate General of Foreign Trade

3.1.1.1 Nature of Project

Directorate General of Foreign Trade (DGFT) is an organisation under Department of Commerce, Ministry of Commerce and Industry engaged in formulation of Foreign Trade Policy of the country and its administer. All types of licenses required for export and import within the country are issued by this organisation. The interface with trade and industry is provided by the 34 offices of DGFT scattered through out the country. EC/EDI implementation stipulates day to day electronic interface with trade and industry and related organisation for electronic delivery of services.

3.1.1.2 Status

Computerisation and networking of all the 34 offices of the DGFT has been completed. Software for all export promotion schemes has been operationalised. The web based electronic application filing system facilitates on-line and off-line submission and processing of application in all the offices. Licenses are now issued in 6 hours as compared to 45 days earlier. Banks are also integrated with system and facilitating e-payments for license fee.

Digital Signature have also been integrated into the license application processing. 90% licenses are now issued electronically. The electronic interface with Customs is also operationalised using digitally signed documents. This would enable paperless license regime.

3.1.2 Indian Customs EDI System (ICES)

3.1.2.1 Nature of Project

ICES is a customs clearance system providing paperless transactions in the Customs House. The system is integrated with users and Bank. Import/export documents, Clearance messages are transmitted over the network to/from the Custom House Agents (CHAs) and trading community.

3.1.2.2 Status

The ICES provides online assessment, duty payment and clearances as well as connectivity with the custom house agents, banks, custodians like the Airports Authority of

India, Port Trusts, Container Corporation of India etc, Reserve Bank of India, Export Promotion Councils, Director General of Foreign Trade, Director General of Commercial Intelligence and Statistics besides a host of other Governmental and Non Governmental agencies. It has following important features:

- Electronic filing of Goods Declarations.
- Paperless processing of the electronically filed declaration in a manner that is transparent and accountable.
- Electronic messaging with the banks for the collection of duties and disbursal of duty drawback.
- Designed to handle electronic messaging with all agencies concerned with cargo clearance.
- Single point of interface of trade with Customs.

Varieties of information access channels are available to the trading community through Enquiry Counters, Touch Screen Kiosks, Interactive Voice Response System, SMS on GSM mobile phones, Service Centres, Helpdesks, Help mails and Web based Systems etc.

E-filing has been facilitated at 33 locations through the customs e-commerce gateway (ICEGATE), which enables the importer/exporter/agents to file their import and export documents from their offices and receive assessment and duty payment related messages. Online help desk has been created for the users of the system. The Customs has also started functioning as certifying authority for its domain.

Customs duty payments are done electronically by having debit orders issued against exporters/importers bank accounts and crediting the Customs account automatically in the Bank. Duty notices and advice of payments are integrated with Customs ICES system. The drawback payments to exporters have also been automated through ICES.

The bank branches are connected with the Customs EDI system for duty payments and drawback disbursements. Export – Drawback scroll is sent electronically at all locations. The e-payment of custom duties by importers has also been started.

3.2 Port sector

3.2.1 Port EDI system

3.2.1.1 Nature of Project

Eleven Major Ports (Kolkata, Chennai, Cochin, Tuticorin, Mumbai, JNPT, Goa, New Mangalore, Vishapatnam, Kandla and Paradip) are under the ambit of EDI implementation.

Out of which the six ports i.e Kolkata, Chennai, Cochin, Tuticorin, Mumbai and JNPT handle substantial volume of containers. These ports are implementing systems for Efficient cargo management and tracking, Port Automation, Uniform procedure/ documentation, Electronic sharing of information with all trading partners (like Customs, Container Corporation of India Ltd. (CONCOR), Banks, Shipping lines, Freight Forwarders, etc), Advance shipment information availability at all ports, etc.,

3.2.1.2 Status

All the 11 major ports are equipped with hardware, software and networking. This covers 75% of sea trade. The electronic interface with Customs, Banks, shipping lines, agents, freight forwarders etc. is operational. A uniform/centralized web based – Port Community System (PCS) is being finalised for all the major ports to provide a single window message exchange with community partners.

3.2.2 Container Management System

3.2.2.1 Nature of Project

A system for having interface for Electronic sharing of information with trading partners like Customs, Port Trusts etc., and automation for efficient cargo movement and cargo tracking is under process.

3.2.2.2 Status

CONCOR has VSAT based network at 55 CONCOR locations across India with ISDN backup network. The Export/Import Terminal Management System (ETMS) with uniform automation has been implemented at 38 locations on Centralized architecture for the EXIM business. Message interface with Customs is operational at Delhi, Ahmedabad, Bangalore, Hyderabad and Ludhiana. An online container tracking system is operational, which is integrated with Indian Railways to provide exact location of container on a route. A web based community partner message exchange system has also been made operational at Tuglakabad.

3.3 Air Sector

3.3.1 Nature of Project

The community partners in Air sector facilitates EC/EDI based processing into the clearance of export and import consignments. The community partners in this case are Airports Authority of India (AAI), Airlines, Customs, Banks, Agents etc. The EDI based cargo handling system and Electronic interface between trading partners is to be established.

3.3.2 Status

The seven international airports at Delhi, Mumbai, Kolkata, Chennai, Hyderabad, Bangalore and Trivandrum have established electronic message exchange with Customs. A web based system for AAI's electronic interface with Airlines, Agents, Banks etc. is operational. All export transactions at Delhi, Mumbai, Chennai and Kolkata airports are done through the system. The system provides interface with airlines, agents, banks etc. The integration of automatic data capturing tools in the automation of AAI is also being done. It has been started at Delhi airport for exports.

3.4 Financial Sector

3.4.1 Nature of Project

The project is for implementation of intra-bank, inter-bank, and bank-user electronic interface establishment for facilitation of electronic receipts/payments.

3.4.2 Status

Banks have established electronic message exchange with major players in international trade like Customs, DGFT, Ports, Airports etc. Real Time Gross Settlement (RTGS) has been made operational by the Reserve Bank of India and 21671 bank branches are connected with RTGS. The system provides for inter-bank settlement of funds on a real time mode.

All export intensive centers (106 centers identified for the purpose) are connected and facilitates electronic transactions. The digital signatures are available through Institute for Development & Research in Banking Technology for banking sector.

JAPAN Progress Report

Japan EDIFACT Committee (JEC)

2006 Country Progress Report : JAPAN

SECTION I - GENERAL CONDITION UPDATE

1.1 Market Scale of e-Commerce in Japan

According to the Survey recently conducted jointly by METI (Ministry of Economy, Trade and Industry), ECOM (The Next Generation Electronic Commerce Promotion Council of Japan) and NTT Data, the scale of Japanese domestic BtoB e-Commerce market in 2004 exceeded 100 trillion yen. The total amount of 102.7 trillion yen (about US Dollar 0.9 trillion) is an increase by 33% over the previous year. The penetration rate of the overall industrial category is 14.7%. Automobile industry shows most remarkable achievement in BtoB e-commerce in 2004 due to increased business amount and expansion of electronic procurement, particularly in auto parts industry, that made the increase of 22% over the previous year. Automobile and electronic industries are two major driving forces to bring the Japanese BtoB e-Commerce unto the current status. Also notable in this year is that various industries began to tackle with e-Commerce.

Table 1: BtoB e-Commerce Market Scale 2004

Industrial Category	(in million yen)	(in million dollar) (@¥110)	(increase over previous year)	(penetration rate)
Food	2,486,000	22,600	177.2%	4.3%
Textile	2,465,000	22,409	119.3%	7.5%
Chemical	6,149,000	55,900	430.0%	11.0%
Steel	6,606,000	60,055	123.1%	16.4%
Machinery	7,407,000	67,336	198.3%	14.0%
Electronic	24,659,000	224,173	101.5%	44.7%
Automobile	34,302,000	311,836	122.3%	65.6%
Construction	4,190,000	38,091	118.1%	4.8%
Paper	1,158,000	10,527	236.3%	6.1%
Utility	2,000	18	–	0.0%
Finance	487,000	4,427	–	1.5%
Insurance	5,937,000	53,973	150.9%	17.2%
Travel, Transport	1,065,000	9,682	138.9%	4.1%
News, Broadcasting	286,000	2,600	2,200.0%	2.4%
IT	3,363,000	30,573	167.4%	33.1%
Others	2,137,000	19,427	657.5%	1.9%
Total	102,699,000	933,627	132.6%	14.7%

1.2 Electronic Government

The goal for establishing the Electronic Government (e-government) is to improve the user-friendliness of the administrative system, and to simplify and improve on the efficiency, reliability, and transparency of the administrative management. This will be done through the re-examination and upgrading of the current service and system.

In July 2003, The IT Strategic Headquarters adopted “e-Japan Strategy II”.

In order to accelerate implementation of this and to achieve the goal of turning Japan into the most advanced IT nation in the world by 2005, the e-Japan Strategy II Acceleration Package was adopted in February 2004 and clarify the priority measures that need to be addressed by the government.

Five areas are picked up where priority is given for achievement:

(1) International IT Strategies in Asia
(2) Reinforcement of Security Measures
(3) Promotion of Content Measures
(4) Promotion of IT Regulatory Reforms
(5) Promotion of e-Government and e-Local Government

When implementing this package, emphasis will be placed on the perspective of users and collaboration between government ministries and agencies will be reinforced and promoted.

1.3 Single Window System

The “Single Window” can be described as a system whereby all the trade related information and/or documents need only be submitted once at a single entry point.

This will expedite and simplify the information flows between trade and government and brings meaningful gains to all parties involved in international trade.

Japanese Government introduced in July 2003 the Single Window System by linking three major systems relating to international trade which are, Port EDI System, Nippon Automated Cargo Clearance System (NACCS) and Crew Landing Permission Support System. The system also covers a wide-range of trade related procedures such as animal quarantine, plant quarantine and port clearance.

1.4 Internet Users

According to Information and Communication White Paper 2005, it is reported that internet users in Japan amount to 79.5 million at the end of 2004. It is an increase by 2.8%

over the previous year and penetration rate is 62.3%. The White Paper also reports that, compared to the end of the year preceding the launch of the e-Japan strategy (2000), the number of internet users increased by about 32 million, and the penetration rate by 25.2 points.

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 Message Development Activities

2.1.1 Japan Electronics and Information Technology Industries Association (JEITA)

JEITA is a new industry organization established in November 2000 by merging the Japan Electronic Industry Development Association (JEIDA) and Electronic Industries Association of Japan (EIAJ) to enter the 21st century. Its activities cover both the electronics and information technology (IT) fields. Within the JEITA, the EDI Center plays the role of promoting standardization which has been executing activities together with the vendors and buyers, focusing on the EIAJ-EDI Standards in order to exchange business transactions.

JEITA uses EIAJ-EDI Standard based on CII syntax rules, a domestic business protocol standard, developed by the Center for the Informatization of the Japan Information Processing Development Center. The EIAJ-EDI Standard was established for promoting electronic ordering of materials in the electronic manufacturing industry, and has been revised as appropriate every two to three years. The latest version was issued in December 2001.

In December 2003, JEITA released “ECALGA (Electronic Commerce Alliance for Global Business Activities)” as EDI brand for the new era. “ECALGA” is intended to widely offer the solutions to the changing needs of new EDI in the Electronic industry, through newly developed messages which are to reflect the real time exchange of a forecast and stock information. At the same time, “ECALGA” changes EIAJ-EDI Standard to the ebXML base. “ECALGA” seamlessly combines all the business processes among the enterprises in the various fields including, but not limited to, the business segment of planning, designing, development, production, distribution and sales.

2.1.2 The Distribution Systems Research Institute (DSRI)

DSRI, a member of GS1, facilitates EANCOM (UN/EDIFACT subset) as the industry EDI standards for Japanese retail and distribution industry since 1997. Since 2000, DSRI has been

developing XML/EDI Distribution Standard messages for the grocery industry. In 2004, message development and preparation of Reliable Messaging Protocol guideline have been carried out as follows:

1) Development by XML schema of returns message.
   (12 messages were developed by 2000 – fiscal year 2004)
2) Review and classification of necessary data items, based on data items for JEDICOS.
3) Preparation of XML tags in Japanese and English languages, taking into consideration international standard specifications.

2.1.3 Japan Shippers' Council (JSC)

JSC has been actively involved in UN/EDIFACT promotion and popularization activities. They have done this as a management body of the Japanese trading industry in response to the industry's expectations. UN/EDIFACT messages have been penetrating in the trading industries. Regarding XML/EDI area, the ebXML has been penetrated into JSC members as an international standard in XML/EDI works.

2.1.4 The TEDI Project

Since TEDI operating companies started commercial service in November 2001, TEDI has worked out not only to conduct various pilot tests but to define rules and practices with PAA (Pan Asian E-commerce Alliance) members to achieve electronic cross-border transactions in Asian region and succeeded to bring some of them into live operation. PAA developed standard messages using XML and adopted ebXML MS V2.0 as communication protocol and is studying to upgrade the standard messages based on ebXML in cooperation of ECOM.

More information regarding TEDI, can be obtained through the following web site.

TEDI Club	http:// www.tediclub.com
PAA	http://www.paa.net

2.1.5 Nippon Automated Cargo Clearance Systems (NACCS)

(1) NACCS

Japan has two automated customs clearance systems named "the Nippon Automated Cargo Clearance Systems for sea-cargo (Sea-NACCS) and for air-cargo (Air-NACCS)". These systems are operated by NACCS Center.

NACCS promptly and accurately handle customs procedures, legal procedures related to non-customs systems (e.g. food, plant quarantine, animal quarantine, trade control, port EDI) and other tasks related to international cargo and shipment handling.

NACCS is an on-line network system, composed of a computer system used in communicating with the center, and a terminal system located in each of the customhouses, customhouse brokers and other related industries connected with telecommunications lines. NACCS structure date exchange with inter-corporate systems on the EDI method. Now NACCS process approximately 95 % of all import and export customs declarations.

(2) Sea-NACCS

Sea-NACCS process customs procedures and private companies related services for import and export cargoes by sea. For imported cargoes, the on-line process begins with the arrival of a vessel in a port and continues through the unloading of sea cargoes from a vessel, import declaration and the approval of import. For exported cargoes, the on-line process is applied to a series of customs procedures and private companies related services including the delivery of sea cargoes to the Customs area(e.g. Customs warehouse), export declaration, the approval of export, the loading of cargoes to a vessel and departure from a port.

Sea-NACCS adopted UN/EDIFACT in submitting arrival report and list of loaded cargo, application for departure, etc. UN/EDIFACT Messages used in Sea-NACCS are as follows:

CUSRES (Customs response message)
CUSREP (Customs conveyance report message)
CUSCAR (Customs cargo report message)
PAXLST (Passenger list message)
CODECO (Container gate-in/gate-out report message)
COPARN (Container announcement message)
IFTMIN (Instruction message)
APERAK (Application error and acknowledgement message)
CONTRL (Syntax and service report message)

In addition, WCO customs data model was introduced into Sea-NACCS about export declaration (EX1) in December, 2005.

(3) Air-NACCS

Air-NACCS process customs procedures and private companies related services for import and export cargoes by air.

For imported cargoes, the on-line process begins with the arrival of an aircraft in an airport and continues through the unloading of air cargoes from an aircraft, import declaration and the approval of import. For exported cargoes, the on-line process is applied to a series of customs procedures and private companies

related services including the delivery of air cargoes to the Customs area(e.g. Customs warehouse), export declaration, the approval of export, the loading of cargoes to an aircraft and departure from an airport.

2.1.6 EDI in Japanese Financial Sector

Since March 1996, a function for financial EDI has been available in Zengin System, an electronic payment system mainly used for domestic credit transfer. Payer firms can attach a twenty-digit matching key, with which beneficiary firms can reconcile commercial and payment date, to payment instructions sent through Zengin System.

This function has been succeeded to its fifth-generation system, which start operation in November 2003. In parallel with the development of the new system, a working group of Japanese Bankers Association examined the possibility to introduce a scheme for financial EDI using XML. However, it has decided not to introduce such a scheme for the time being as there are legal and technical issues to be addressed.

MT103 Remit, which is a new message type of SWIFT's FIN for customer payment and has the financial EDI capability, is widely used in Japanese banks. By using MT103 Remit, payers can attach EDI data of up to 9,000 digits and of any type of formats including EDIFACT to a payment instruction. However, Japanese banks use SWIFT messages mainly in cross-border transactions, partly because the protocol and formats for most Japanese payment systems are incompatible with those for SWIFT.

Turning to C2F area, electronic methods to transfer money between individuals' bank accounts are widely used in Japan. According to a survey conducted in March 2005, funds transfer services are provided through the Internet by 79.2 percent of the 456 respondent banks. In addition, services using mobile terminals (e.g., mobile phones) are provided by 80.3 percent of the respondents.

2.1.7 Port Logistics Information Network System (POLINET)

POLINET, operated by POLISA (Port Logistics Information System Association), formerly called as SHIPNETS, is the first cross-industry EDI network system in Japan and has been in service to exchange shipping documents among the freight forwarders, ocean carriers, tally companies and sworn measurers at major sea ports in Japan since 1993.

POLINET has started to handle UN/EDIFACT message formats since 1998, in addition to the traditional SHIPNETS standard message formats, and expanded the scope of the application areas to cover the import, terminal and container operations, and settlement activities, in addition to the export activities.

In February 2001, POLINET implemented new Internet EDI system using the internet

technology, and enhanced it in April 2002.

The Internet EDI system comprises Web-POLINET and Cyber-POLINET, both of which interface with the traditional VAN-to-VAN POLINET. The system in POLINET Center offers a format conversion capability between the Web, SHIPNETS and UN/EDIFACT formats. The Web-POLINET provides users with several capabilities to relieve the input burden. It is handy EDI system to be easily used and is suitable to small sized users who have no in-house system.

In April 2002, POLISA started eForwarder ASP service, an outsourcing service system which is capable to efficiently process the freight forwarders' day-to-day operations, including import, export documentation, warehousing, and billing activities. The utilization fee for the service is set low as compared with the cost in case of development made by individual company. The users are free from the system maintenance burden and may keep the investment risk minimum. It is expected that the eForwarder ASP service will contribute to expedite the diffusion of EDI in the port logistics community in Japan.

In 2002, POLISA carried out an investigation and study of XML/EDI which would be useful for EDI promotion of a medium and small-sized business. As a result, a port & harbor logistics XML/EDI standard guide was published in March, 2003.

Continuously in 2003, POLISA tried a proof experiment of mutual connection and cooperation between different private networks using XML/EDI (between POLINET and TEDI, and between POLINET and BOLERO). Based upon the proof experiment, a guide was published in April, 2004. This guide shows some informative guideline for private EDI networks to perform mutual network connection in order to exchange business information seamlessly between different networks.

Basing upon "EDI specification for network connection between Sea-NACCS and private system" published by NACCS Center in November, 2003, POLISA, from February 2006, started a new Sea-NACCS/POLINET network connection service where some key export business information could be exchanged between both network users. It is expected that freight forwarders can reduce input burden by using this service. It is also expected that EDI ratio becomes higher through expansion of the range of the EDI business partners.

2.1.8 Port & Harbor EDI System

This year's hi-lighted event is that "New simplified application forms for the ship arrival" has been adopted which are full aligned with IMO FAL application forms. The new applications have been used in the port & harbor EDI system in November 2005.

The "Port & Harbor EDI System" (Port EDI System in short) has been in service since 12th October 1999. WAVE (Waterfront Vitalization & Environment Research Center -

non-profitable organization) has been assigned to develop, operate and manage this system by Harbor Bureau of Ministry of Land, Infrastructure and Transport, Japan. The parties concerned of this EDI system are Port Authorities, Harbor Masters and Shipping Lines or their agents.

Since the launch on 12th Oct. 1999, the numbers of participants in the Port EDI System is increasing. As of end of June 2005, 113 Port Authorities, 99 Harbor Masters, 109 Guard and rescue offices, 83 Quarantine offices, and 1109 shipping lines, their agents or private berths are members of this system.

Shipping lines/agents have two options to transmit data required electronically, by UN/EDIFACT messages or through the web-screen (Web-EDI).

In the 1st stage, two UN/EDIFACT messages, BERMAN (Berth management message - UNSM in D00A) and APERAK have been implemented. Adding these two messages, an application of “dangerous (hazardous) goods handling operations (IFTDGN)” has been implemented in October 2000, thence expand to other major ports within this year. In order to implement IFTDGN, we cooperated with PROTECT Group (a users group to develop a harmonized user guidelines in Europe, and their latest version of user guidelines was endorsed as an international standard by IMO) to develop the harmonized message implementation guideline (MIG). Furthermore, we are modifying/changing BERMAN to cover more functions of pilot/tugboat service requirements in cooperation with TBG3 (Transport Sub-working Group under TBG).

Adding IFTDGN, two applications “vessel’s long term schedule and previous called port information (IFTSAI)” and “Passengers’ and crews’ information (PAXLST)” also have been implemented in October 2000.

With regard to the reducing redundant input data item issue, we are collaborating with the customs authority, the immigration authority and the quarantine authority to provide an electronic data input environment for users (shipping lines/agents), so-called “Single Window (SW) ” methodology. This is in service in July 23rd 2003, and once users transmitted Port-in/out related declaration or application data to the portal system, the data is automatically transferred to the related authorities. In Japanese SW, both the Port EDI system and the Sea-NACCS system play a part of portal system. The Port EDI system provides three input methods which are a web screen input, an application program on user PC and UN/EDIFACT messages, for the SW portal system.

Lastly WAVE has been dispatching their representative to various international meetings, such as TBG3/ITIGG (an official subgroup of TBG3 to develop harmonized MIG’s) and other global users’ group (SMDG) so as to develop and implement harmonized MIGs to be used in our system.

2.1.9 Travel, Tourism and Leisure (TT & L)

The initial EDI activity in the travel related industry in Japan started in 1992 soon after the establishment of TT&L work group in UN/EDIFACT. In order to internationally sell Japanese travel products, more than 30 travel related companies and associations have kept working in the name of EC Promotion Organization for Travel Industry to normalize the travel business processes and data by using XML/EDI based on the standards and specifications of UN/CEFACT Forum and OTA (Open Travel Alliance). The first working results on the Japanese original hotels (Ryokan) undertaken by the Organization were submitted to the Forum last year to be facilitated in the Small Scaled Lodging House Information Project and are now in its harmonization process. The second submission will be ready to the Forum during this year.

The TT&L EDI meeting with Taiwan TT&L industry has been held yearly either in Taipei or in Tokyo and in Dec, 2005 this was held in Taipei with the industry members of the two countries. The visit Japan campaign in Japan has been undergone to promote Japan to the foreigners and the EDI standard activity is also activated these days.

2.2 Education and Awareness Programs

2.2.1 JEDIC (Japan Electronic Data Interchange Council)

JEDIC has conducted the survey on the EDI status for 59 industry associations in Japan. The result says that 59.4% of the companies are doing EDI in the procurement process and 53.9% of the companies are doing EDI in the area of marketing.

JEDIC publishes the EDI news letters and holds the EDI seminars regularly. Also JEDIC started the new promotion program for ebXML including the hands-on trainings.

2.2.2 ECOM (The Next Generation Electronic Commerce Promotion Council of Japan)

ECOM organized the research and the promotion for Electronic Commerce and RFID in Japan. The research report includes How to promote RFID in the various industries, How to build up the information models for the product lifecycle management based on the UN/CEFACT Modeling Methodology, and How to establish the Registry and Repository for ebXML.

2.2.3 JASTPRO (Japan Association for Simplification of International Trade Practices)

JASTPRO holds “EDI seminar” every year. The contents of the programs include;

1) Current status of Trade Facilitation and EDI
2) Characteristics of Japanese EDI in trade area
3) Port EDI system under single-window service
4) Japanese trade EDI activities with Asian counterparts

2.3 Status of ebXML Development

For implementing the e-Business Collaboration based on ebXML, the Model Sharing among the related business entities is the key. The Next Generation Electronic Commerce Promotion Council of Japan (ECOM, Chairman: Takuya Goto, Chairman of the Board, Kao Corporation) is performing activities which contribute to decision of the technical standard about a "core component" and the "modeling methodology" of ebXML. Furthermore, the activity for spreading use of ebXML technology through the actual business of Japan and Asian countries is also carried out.

In order to promote ebXML among the Small and Medium sized Enterprizes, ECOM developed and submitted the new specification of ebXML Messaging Service which can provide the Solution for Client-Server System to OASIS.

2.4 Working Groups and Committees

2.4.1 JEC

Japan EDIFACT Committee (JEC) was established in July 1990 as a supporting organization for UN/ECE/WP.4 (currently UN/CEFACT) and Asia EDIFACT Board (currently AFACT). JEC is composed of committee members representing various field of industry, which includes trade, finance and manufacturing. JEC sends delegates to AFACT meeting every year.

2.4.2 TAG (Technical Assessment Group)

With regard to the development of UN/EDIFACT standard messages, TAG has been playing a key roll in technical support by making technical assessment of DMR(Data Maintenance Request) from UN/EDIFACT users in Japan. TAG members have reviewed the translated MDR (Message Design Rule Rev.5 & Rev.6), main points of EDIFACT Syntax Rules Ver. 4, as well as Ver.1.2 of MACH (Message and Code Handbook) and they had 11 meetings in 2005 fiscal year. They also studied about XML/EDI in line with the UN/CEFACT Forum groups work.

2.4.3 Japan Committee for UN/LOCODE

UN/LOCODE has been in use in Sea-NACCS and Port EDI system since 1999. For the purpose of successfully introduce these systems, the committee was established in 1997.

Currently the number of the registered UN/LOCODEs for Japan counts 1,616 in comparison with 400 at the beginning. The roll of the committee is to maintain the codes and make a request for new codes in Japan. In the future, it is intended to enhance the roll of the committee to encompass UN codes other than locations.

2.4.4 Special Committees

(1) Trade Procedures Simplification Committee

In the aftermath of the September 11 terrorist attacks in the United States, demand for the measures to assure tighter security is rapidly increased. Under such circumstances, to satisfy the needs of the international trade environment in terms of efficiency and security becomes universal concern among the parties involved. Since Japan fully rely on trade activities with other part of the world, it is an ultimate issue for Japanese trade community to find the solution to obtain adequate security without interfering efficiency in trade.

In the work program of this committee for this year, primal focus is placed on the research of security measures on various aspects of trade procedures. Some of these are already implemented, others are on the process of being implemented, and the rest are possible future plan. Analysis and evaluation is given to the effect of such measures onto the efficient trade flow. Security measures initiated in the private sector is also studied.

By gathering and sorting out all these available information, some directive condition for effective implementation of security measures in the trade procedure will be sought.

(2) Trade Network System Research Committee

The committee member visit an oversea country in order to study and research trade network systems from the viewpoint of trade and procedures facilitation. The outcome is reported to the trade industries and authorities concerned. The committee visited Korea in 2004 and China in 2005.

(3) Trade Procedures for XML/EDI Implementation Research Committee

XML/EDI using internet is the hottest theme in EDI business. XML/EDI is regarded the next-generation EDI that resolves the problems in legacy EDI and Web-based (Internet) EDI. JASTPRO launched this committee in order to study possibility of introducing XML/EDI concept into trade procedures. This approach is important to re-use resource of UN/EDIFACT and to keep inter-operability between UN/EDIFACT and XML/EDI. The committee continues to extend their efforts to simplify tag name for data element in UN/EDIFACT and explores the area of trade procedures based on object-oriented model.

KOREA Progress Report

Korea Institute for Electronic Commerce

2006 Country Progress Report : KOREA

SECTION I - GENERAL CONDITION UPDATE

In Korea, the effort to promote e-Business implementation has continued by both public and private sectors to make Korean industry more competitive in the global economy. As a result of this consistent effort, e-commerce ratio to total trade has increased to 19.8% in 2005 from 18% in 2004.

1.1 User Status

1.1.1 PC Penetration in Household

As of December 2005, 78.9% of total Korean household have PCs, which is 1.1% increase compared to December 2004.

1.1.2 Internet Users

As of December 2005, there are about 33,010,000 Internet users (72.8% of total Korean population) in Korea. The number includes wireless Internet users as well as wired Internet users. Compared to the number in December 2004, there is an increase of 1,430,000 Internet users. Analysis of Korean Internet users by gender shows that 78.5% of males and 67.2% of females use the Internet. Analysis of Korean Internet users by age shows that more than 90% of persons in their age of 30s or younger use the Internet (97.8% for 6-19, 97.9% for 20s and 91% for 30s).

1.1.3 Broadband Penetration

As of April 2006, the ways for Korean household to access Internet are xDSL (89%), cable modem (13.9%), dial-up modem (0.4%), and others (0.7%). While the ratio of Korean households accessing the Internet via dial-up modem and ISDN are decreasing, the ratio for accessing the Internet via the broadband (xDSL and cable modem) increases year by year.

1.2 eCommerce Market Status

1.2.1 eCommerce Trade Volume

The eCommerce market in Korea grows continuously year-by-year as shown in Table 1. The total eCommerce trade volume in 2005 was 358,450 million US dollars, which was about 14.1% increase compared to the total eCommerce trade volume in 2004. B2B remains as

the most dominant type of eCommerce with the share of 89.1% in total trade volume.

Table 1 - eCommerce Trade Volume in 2005 (Unit: Billion USD, %)

Year	Total	B2B	B2G	B2C	Other
2003	235.02	206.85	21.63	6.10	0.44
2004	314.08	279.40	27.35	6.44	0.89
2005	358.45 (100)	319.20 (89.1)	29.04 (8.1)	7.92 (2.2)	2.29 (0.6)

Source: Korea National Statistical Office, Mar. 2006, $1 USD ≈ 1,000 KRW

1.2.2 Korea e-Marketplaces

There are 186 e-marketplaces in Korea as of December 2005. Compared to the number of e-Marketplaces in 2004, there is a decrease of 48 e-Marketplaces (about 20%) while the trade volume increased about 28.6% from 10,568 million US dollars in 2004 to 13,591 million US dollars in 2005. The pattern of increase in trade volume despite sharp decrease in number of e-Marketplaces has continued due to the fact that some e-Marketplaces are closed because they failed to make profits in competition even though there is an increase in eCommerce trade. When e-Marketplaces are analyzed by business area, the most dominant areas were machinery & industrial materials (23) and electronics (23) followed by MRO (18), etc.

Table 2 - Number of e-Marketplaces in 2005 (Unit: Million USD)

Areas	e-Marketplaces	
	Number	Trade Volume
Chemical	13	2,303
Construction	9	1,889
Agriculture, Dairy, fishery and F&B	15	1,848
Iron & Steel	9	1,504
MRO	18	3,644
Healthcare	11	613
Machinery & Industrial Materials	23	989
Electronics	23	426
Others	65	374
Total	**186**	**13,591**

Source: Korea National Statistical Office, Mar. 2006, $1 USD ≈ 1,000 KRW

1.2.3 Cyber Shopping Malls

As of December 2005, there are 4,355 cyber shopping malls in Korea. Out of 4,355 cyber shopping malls, 300 are general retailers and 4,055 are specialized retailers. Compared to 2004, 866 more cyber shopping malls (24.8% increase) were in operation as of December 2005

Table 3 - Number of Cyber Shopping Malls in 2005

	Number	Percentage
General Retailers	300	6.9
Specialized Retailers	4,055	93.1
Total	4,355	100

Source: Korea National Statistical Office, Mar. 2006

1.2.4 G2B Market

The total trade volume of G2B eCommerce is 29,036 million US dollars as of December 2005, showing gradual annual growth pattern. Out of total G2B trade volume, 45% was made through purchase of goods & services and 55% was through construction.

Table 4 - G2B Market Size in 2005 (Unit: Million USD, %)

Year	Total	Purchase of Goods & Services	Construction
2003	21,634	8,411	13,223
2004	27,349	9,816	17,534
2005	29,036 (100)	13,064 (45)	15,972 (55)

Source: Korea National Statistical Office, Mar. 2006, $1 USD ≈ 1,000 KRW

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 EDIFACT/XML based Standards Development

In Korea, all types of electronic documents (EDI, XML and XML/EDI) are standardized by KEC (Korea E-document Standard Committee). In accordance with the revision of the Framework Act on Electronic Commerce in 2005, KEC has changed its full name from Korea EDIFACT Committee to Korea E-document Standard Committee and the name of its Sub Committees from SCs (Sub-Committees) to SGs (Standard Groups) in 2006 as shown in Figure 1. In its regular 23rd meeting in July 2006, KEC approved 89 new XML messages (60 in customs and 29 in electricity). As a result, there are 505 Korea standard electronic documents (262 EDI, 53 XML/EDI and 190 XML) as of 2006 as shown in Table 4.

Table 5 - Korea Standard Electronic Documents in 2005

	EDI	XML/EDI	XML	Sub-total
Trade	37	27	0	**64**
Insurance	4	4	0	**8**
Sea Transport	38	0	0	**38**
Land Transport	6	0	0	**6**
Finance	31	0	0	**31**
Healthcare	11	0	0	**11**
Customs	39	0	60	**99**
Distribution	19	0	0	**19**
Iron & Steel	11	0	5	**16**
Procurement	0	0	66	**66**
Electronics	20	0	0	**20**
Automobiles	22	0	0	**22**
Ship-building	21	0	0	**21**
Textile	0	22	0	**22**
Electricity	0	0	46	**46**
Common	3	0	1	**4**
Stationary	0	0	12	**12**
Total	**262**	**53**	**190**	**505**

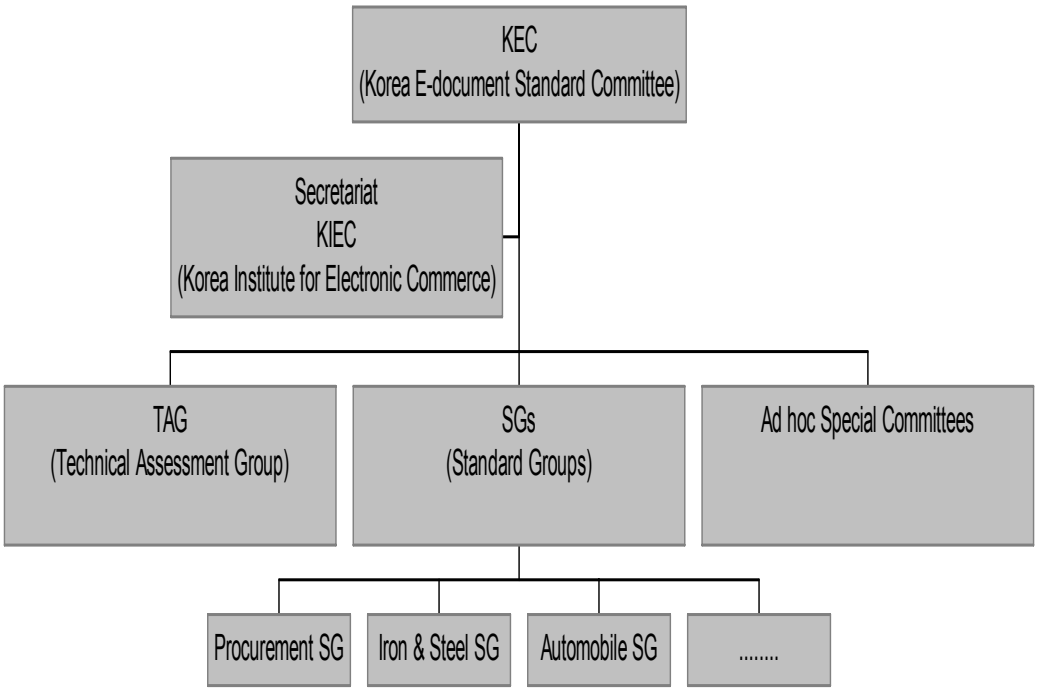


Figure 1. KEC Structure

2.2 ebXML Promotion and Development

In an effort to promote e-Business in Korea, KIEC consistently promotes ebXML as the focal point of UN/CEFACT and as a member of OASIS. Regular ebXML promotion activities of KIEC include holding of regular e-Business/ebXML workshop and management of Korea ebXML website. KIEC also contributes to international ebXML standardization by participating in such meetings as 12th UN/CEFACT Plenary, 8th UN/CEFACT Forum and 14th & 15th eBusiness Asia Committee meetings.

As a measure to provide e-Business standards contents to Korean market, KIEC manages Korea ebXML Central Registry & Repository (REMKO). As a result of regular content registration, REMKO currently maintains about 4,000 of KEC approved standard electronic documents, code list of electronic documents (XML & EDI), company profiles, basic

semantic registers, ebXML related contents, etc. REMKO is also linked to other industrial information services to enable users to search relevant information. REMKO is continuously enhanced for improved user-friendliness and functionality.

In May 2005, KIEC started a certification service for standardized electronic TAX invoice. For fair administration of certification service, a certification committee is set up and a conformity verification system is used. Upon successful verification, applicants are given eBusiness Interoperability mark. As of April 2006, 34 electronic TAX invoice systems were certified by the Service.

For the implementation of ebXML, the Korean Ministry of Government Administration & Home Affairs (MOGAHA) continues its 2nd year project to expand the implementation of ebXML messaging service as a messaging protocol to exchange public/administrative documents with more of its affiliate organizations.

SECTION III – Trade Facilitation / eBusiness / eCommerce Related PROJECT UPDATES

3.1 eBusiness Programs/Projects

3.1.1 e-Learning Promotion Program

In full recognition of the importance of e-Learning as one of next generation growth dynamics, Korean government is committed to promote e-Learning through various e-Learning policies and programs.

At the policy level, the “National e-learning Master Plan for the Development of e-Learning Industry” was developed in 2005. In addition, the 2005 e-Learning Whitepaper was published and research was conducted on the status of e-Learning Industry. For the e-Learning standardization, studies were made on such issues as e-Learning terminology, e-Learning quality certification system, etc. As part of ADL Co-Lab cooperation, experts were sent to the US Academic ADL Co-Lab in November 2005 for training. For international standardization of e-Learning, domestic experts continually participates in ISO/IEC JTC1 SC36.

For the human resource development, various courses on e-Learning such as course design, content development, SCORM developer course, etc. were developed. For the promotion, e-Learning Expo 2005 was held in November 2005. In addition, during the APEC Summit Meeting in November 2005 in Pusan, Korea, e-Learning Pavilion was operated as

part of APEC IT Exhibition.

3.1.2 e-Business Human Resource Development Program

To nurture quality e-Business human resources, KIEC manages such programs as financial support program to colleges with e-Business program, financial support program to e-Business graduate school with Industry-Academy joint program and e-Business Human Resource Center.

In 2005, 6 universities were supported in the financial support program to colleges with e-Business program and 5 graduate schools for the financial support program to e-Business graduate school with Industry-Academy joint program. The e-Business Human Resource Center provided 26 times of training to around 820 people with 20 courses in 2005.

In 2006, KIEC continued supporting programs for the development of overseas human resources. In May 2006, KIEC, through its e-Business Human Resource Center, managed an e-Business course to train 15 people from 12 countries in Asia and Africa. In this program, KIEC provided e-Business lectures, arranged visits to eCommerce companies and field trips for the participants. KIEC is also scheduled to provide an e-Learning course to foreign delegates in August 2006.

3.1.3 G4B System

The G4B system is government one-stop service portal for businesses. The system is intended to support the activities of businesses throughout the whole business lifecycle and mainly composed of three services – service for online support of corporate administrative affairs (for example, applying for government license, business registration, etc.), service on industrial information and network linking service & additional service.

The G4B system also provides community support and adopted SSO (Single Sign On) function for the convenience of users. After the 1st stage project to establish the system, the G4B system is open for service as of September 2005. The 2nd stage project is in process for the enhancement of the existing system.

3.1.4 Authorized Electronic Data Message Retention Center

In Korea, there is a rapid increase in the use of electronic data message in every sector of society as e-Business implementation grows ever more. However, in the current business environment, the private sector has also kept a hard copy on paper in compliance with rules on preserving electronic data message for its legal validity while using electronic data message. To redress this issue, Korean government has prepared relevant provision in the Framework Act on Electronic Commerce through the revision in 2005. Under this Act, a trusted third party is designated as the Authorized Electronic Data Message Retention Center

for reliable preservation, authentication, and circulation of electronic data message. The data message preserved in this retention center is legally binding; its authentication is guaranteed by law, and it can be circulated.

In 2005, after the revision of the Framework Act on Electronic Commerce, the effort was focused on the provision of detailed rules on the operation of the Authorized Electronic Data Message Retention Center such as revision of enforcement decree and regulation as well as ISP/BBR for strategic direction of the program. In 2006, the work will center on preparing specific requirements, rules and procedures for designating the Authorized Electronic Data Message Retention Center. In that context, a pilot project will be launched and roadmap will be developed.

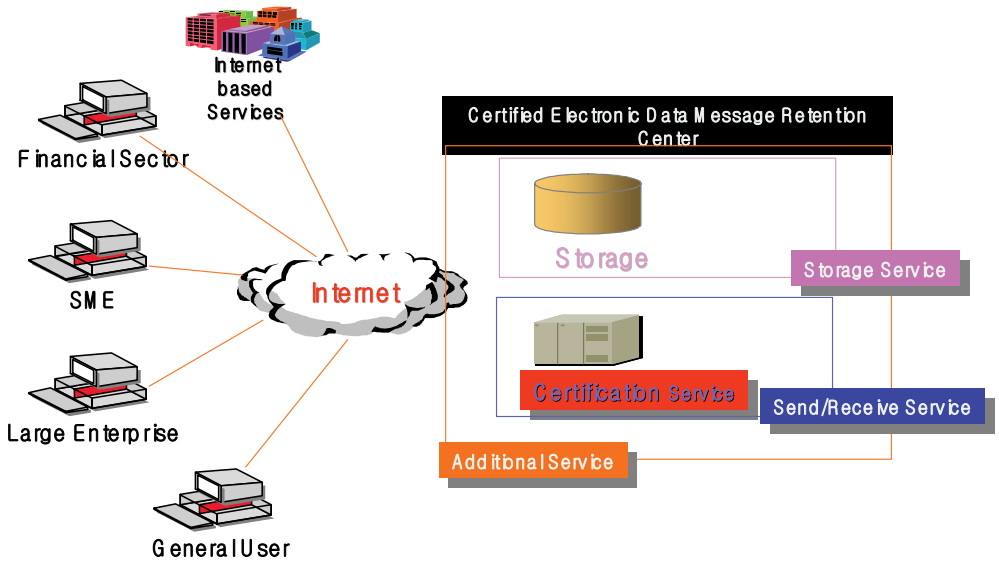


Figure 2. Conceptual Model of Authorized Electronic Data Message Retention Center

3.1.5 Other programs/projects

Other e-Business programs includes such continuous programs as the eTrust certification program for consumer protection in eCommerce, the Electronic Commerce Mediation Committee (ECMC) for alternative dispute resolution of eCommerce dispute, and the Electronic Commerce Resource Center (ECRC) for overcoming geographical Digital Divide.

As of June 2006, there are 70 commercial websites certified with eTrust Mark. For the year 2005, the number of disputes received and mediated by the Electronic Commerce Mediation Committee were 1,750, which was 69.6% increase compared to 1,032 of the previous year. In 2006, there are 25 ECRCs operating in various provinces of Korea.

3.2 Trade Facilitation

Korean government is committed to promote eTrade as a measure to increase the competitiveness of Korean business in borderless global trade environment of the 21st century. The eTrade Facilitation Committee, established to prepare an eTrade infrastructure, launched the 2nd year project to establish an eTrade Platform in November 2005 with the goal of opening the eTrade Portal in September 2006. In the 2nd year project, the electronic Letter of Credit system (eL/C), which started its service in September 2005, will be enhanced for service improvement.

The Korea Customs Service (KCS) completed a project to establish an Internet customs clearance portal and started services in November 2005. Consequently, businesses can use either EDI Clearance service or Internet Clearance service depending on their business environment. The Korea Customs Service established the Customs Modernization Plan 2010 (CMP 2010) to realize ubiquitous customs services by the year 2010. In 2006, the Korea Customs Service registered a patent for its Electronic Customs Clearance System and focuses on exporting its Electronic Customs Clearance System to foreign countries such as Dominican Republic, Kyrgyzstan, Tadzhikistan and Vietnam. In October 2005, Kazakhstan Customs decided to implement Electronic Customs Clearance System of the Korea Customs Service.

PAKISTAN Progress Report

E-Commerce Resource Centre - Pakistan

2006 Country Progress Report : PAKISTAN

SECTION I - GENERAL CONDITION UPDATE

1.1 Introduction

Pakistan is an important member in the world community for its strategic location, skilled manpower, natural resources, and English-speaking. Pakistan is global focus of world community due to current geopolitical circumstances and its moderate policy. Pakistan is the gateway to Gulf and CIS countries. Average GDP of Pakistan during last three years has been 7.5%, and Purchasing Power Parity (PPP) has increased to US$2300/per capita.

1.2 ICT Developments in 2005-06

During last one year Foreign Direct Investment in Pakistan increased by 238%, Telecom sector was the largest beneficiary. ICT spending also increased in public and private sector, most of the spending was on ICT infrastructure, especially in Telecom sector. Investment from overseas in telecom sector has tremendously increased due to deregulation of telecom sector and over US$1/Billion was received in last 9 months.

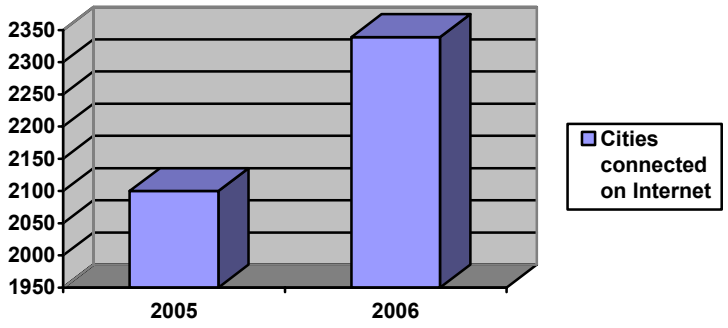
Government in Pakistan has laid the foundation of ICT future by changing the basic policy of monopoly on telecom sector and handed over telecom operation to private sector, with open and healthy competition among telecom operators. Pakistan Telecommunications Corporation, public owned telecom monopoly, has been privatized and taken over by Etislalat of United Arab Emirates. Cellular telephony sector has shown unprecedented growth; over 100%/year, and mobile phone connection have reached to 32/million from 14 million in a year. There is tough competition among cellular operators and beneficiary is the customer.

Government of Pakistan has declared ICT one of the four pillars of national economy, and playing the role of the facilitator, enabler and promoter of the ICT in the country. Ministry of Information Technology has ownership of ICT development in the country. Software Export Board is working under Ministry to promote Software Exports. Ministry is also providing resources for e-Government projects and guiding stakeholders like Security and Exchange Commission on e-Services project. Ministries of Information Technology of provinces are closely working with private sector for development of ICT in their provinces.

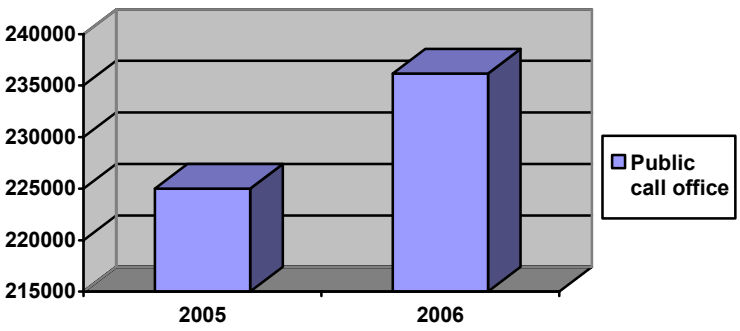
Trade and finance sectors have shown tremendous growth in 2005-06. International trade (imports and exports combined) is over US$40/billion this year, and services sector has increased its share in GDP. Financial sector has also improved its profitability by over 40%. Capital market has attracted overseas investment with increase in KSE index.

As a result of policies adopted by the Government following is progress in ICT:

- ICT total investment and spending has crossed US$10/Billion in 2005-06
- Over US$1/Billion foreign direct investment has been received in Telecom sector alone during last 9 months and US$10/Billion investment is expected in next five years in this sector.
- 150 ISPs / DNOPs licenses have been issued, 70 are in operation
- Internet users are over 5.5/Million
- Mobile phone users increased to over 32/Million
- 2339 cities and towns are connected to Internet
- 5500 Internet cafés are in operation

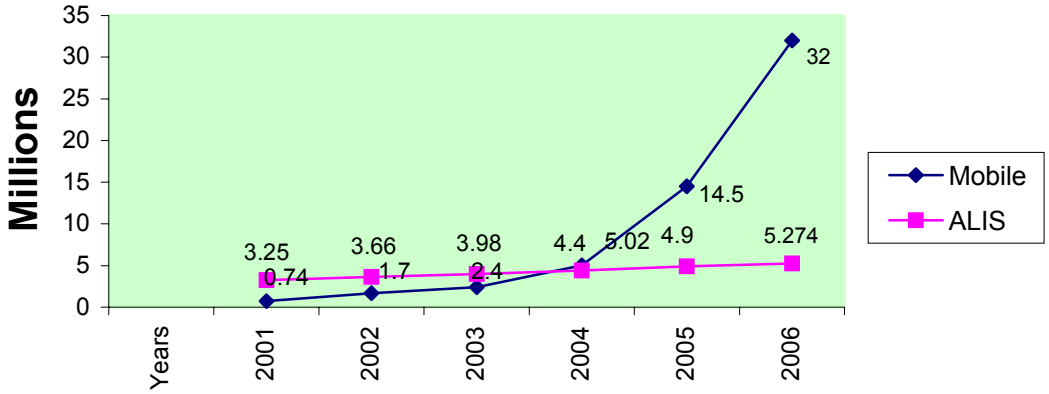


- 236,166 Public Call offices are operating in the country

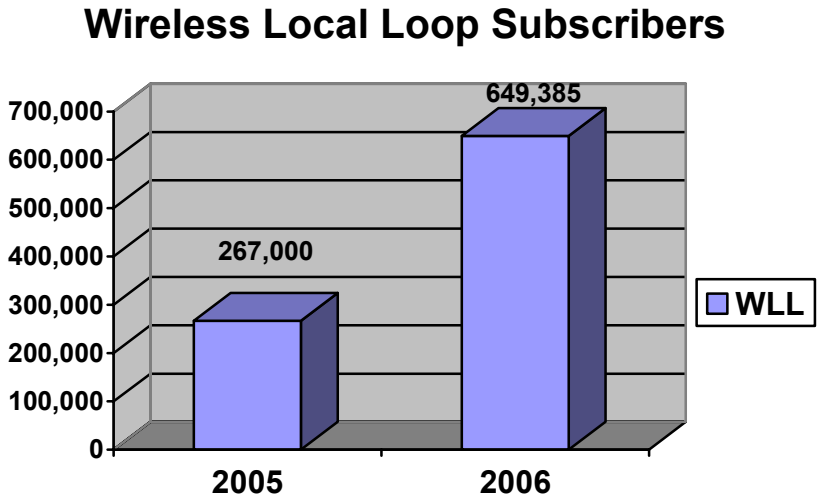


- International and domestic telecom tariff has been drastically reduced
- Personal Computers population is over 4.5/Million
- Over 100,000 Graduates at Masters and Bachelor are working in ICT sector
- Software exports and services are over US$400/million
- Over 100 call centers for overseas operations are working
- E-Government projects under implementation are US$300/million, at federal and provincial level

Mobile Subscribers vs. Fixed Line Subscribers



After a slow start following the transition from a regulated state-owned monopoly to a deregulated competitive structure, Pakistan's telecom sector is now moving into a period of what could well be phenomenal growth. Fixed-line penetration stood at a low 3.82% and there is plenty of room for further expansion. The government is continuing to pursue its targeted national teledensity of 7% (around 10 million lines) by 2010. To achieve this target, around 1 million additional lines need to be installed every year. Pakistan's mobile sector, which had started to grow strongly over the last few years, rocketed to 32 million subscribers (21% penetration) by June 2006 and was gearing up for further growth. The mobile population has been increasing at a staggering 120% annually. In absence of fixed line; WLL has picked up sharply and 650,000 lines are working with annual 30% growth in WLL sector.



1.3 Telecom Infrastructure:

	June-2004	June-2005	June-2006
Telephone lines (including WLL)	4.94 m	5.4/m+	6.0/m+
Mobile phones	5.2 m	14/m+	32/m+
ISPs / DNOPS	130	150+	170+
PCOs	200 k	225/k	236/k
Cities connected through Internet	1,700	2100	2339
Internet users	4/m	5/m+	5.5/m+
e-Mail users	5/m+	6/m+	6.5/m+
Cyber Cafes	3,500	4,500	5,500
Fiber Connectivity	360 cities	400+ cities	500+
% Digitalization	100%	100%	100%
Landline Tele-density	3%	3.6%	3.9%
NWD locations	1,750	2,000	2,200
Cellular Density	3%	7%	21%

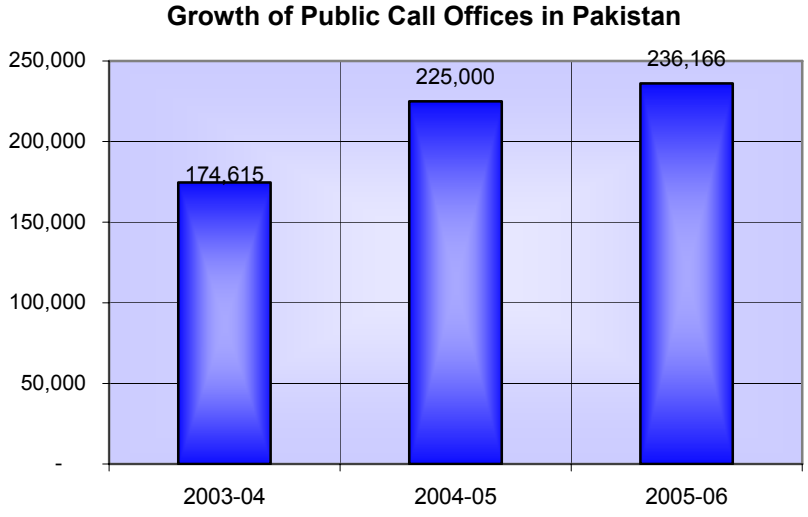
1.4 Deregulation of Telecommunications and its impact

Pakistan telecommunication sector had remained a monopoly for a very long time. Telecommunication sector has been liberalized and PTCL has been privatized now. So far Pakistan Telecommunication Authority (PTA) has issued 12 LDI and 76 LL licenses in addition to 92 WLL licenses, 2 new mobile companies are in full operation now, increasing number of cellular operators to 6.

1.5 Investment in Telecom sector

Mobile operators have announced to invest more than USD 2.4 billion just in infrastructure; Mobilink is investing around USD 831 million in next three years, Telenor and Warid, the newly licensed operators are investing around USD 495 million and USD 325 million respectively during 2005-07 in addition to the license fees. One of the cellular operators Telenor is going to invest approximately USD 1billion in Pakistan in next 5 years. LDI and WLL operators are also planning to invest USD 411.77 million during 2005-2007.

With six mobile companies operating in Pakistan, tele-density in mobile sector has increased to 21%, although most of the users are in urban areas but rural areas has been benefited from cellular revolution in Pakistan, as compared to fixed lined tele-density of 3.82%. There are further opportunities for growth in fixed lines and mobile sector. Local and international companies are investing in these areas and International calling business as the VoIP has been legalized. VoIP sector has increased tremendously during last two years; mainly due to large number of overseas Pakistanis (5/m) living around the globe. Public call offices have provided communication facility to a common man and are on constant increase.



Pakistan Telecommunication Company Limited (PTCL)

State owned telecom operator PTCL has been privatized, 12% stake in PTCL is in the hands of employees and private investors. Authorities have completed the sale of 26% of PTCL controlling stock on the open market. The successful bidder for the stake was Emirates Telecommunications Corporation (ETISALAT) of the United Arab Emirates, which paid US$2,570 million in partnership with Dubai Islamic Bank. Following are salient features of the largest fixed line operator in Pakistan.

Fixed Line Capacity	6.0 (M)
Telephone Subscribers	5.3 (M)
Exchanges	3020
Countries on ISD	242
Customer Services Centers	155
Long Distance VHF PCO's	3101
Total Length of Main Fiber Optic Link	4591 KM
Optical Fiber Short Haul Links	159.1 KM
Optical Fiber Spur Links	4462.7 KM
Internet Services	2339 Cities
Digitalization	100%

1.6 IT Sector in Pakistan

With most of the global IT company presence in Pakistan, and with revenues growing by 35% year on year, the IT industry is probably the most exciting and dynamic sector in the country today. An industry characterized by about 100,000 professionals, major ongoing IT projects within the government and the private sector to the tune of hundreds of millions of US dollars, and world-class software product and services companies bears testimony to the vibrancy of the IT and IT enabled services sector in Pakistan. The convergence of

communications, computing, and entertainment has resulted in the blurring of boundaries between disciplines and IT companies now come in all shapes and sizes. IT has indeed been taken out of the closet and has been mainstreamed into every aspect of industrial and economic activity within the country.

Following are some of the leading global companies operating in Pakistan with healthy growth every year. Over 100 overseas IT companies are operating in Pakistan, including offshore development centers based in Pakistan.

Company	2004	2005	2006
Oracle	30	40	70
IBM	20	20	25
NCR	25	30	35
Microsoft	20	30	30
Intel	30	30	35
Cisco	20	30	50
Revenue Growth (%)			

The size of Pakistan IT industry is estimated at US$1.5/billion/year with average growth of 35%/year.

Statistics of the Pakistani IT/IT enabled services

Number of IT companies working in Pakistan	500 +(Registered PSEB Members)
Number of substantial IT companies	335 (Active PSEB Members)
Number of companies ISO certified	70 with another 30 due to be certified by June 2005
Number of companies CMM Assessed	4 CMM Level 5 company, One Level 4. 5 ready for assessment at CMM Level 3 by March 2006
IT and IT Enabled Services Exports during 2004-2005	US$ 72 million, reported by State Bank of Pakistan
Percent growth in Exports	45% over Fiscal Year 2002-2003
Export target for the current fiscal year 2005-2006	US$ 72 million (State Bank transactions)
Annual Software Industry Turnover	Around US$ 70-80 million
Number of IT graduates produced per year	About 5,500
Number of Universities offering IT / CS programs	45
IT Professionals engaged in software export development	About 6000-8000
Call Center agents working for international clients	About 2,500
Total number of IT professionals employed in the country	About 75,000
Total IT spending in fiscal year 2003-2004	About US$ 600 million
Total amount of space utilized in STPs	600,000 sq ft
Cost per E-1 connection (2MB)	US$ 2000 per month

Source: Pakistan Software Export Board

Note: It is estimated that about 500 non-PSEB registered software development set-ups are also working in country, most of these are owned by large to medium organizations and working for in-house development.

1.7 Legislation for e-Laws:

Govt. of Pakistan has promulgated Electronic Transaction Ordinance for legal acceptance of electronic transactions in the country. Cyber Crimes Law, Data Protection Law, and e-Payment have been drafted and ready for legislation. E-Commerce Resource Centre – Pakistan has played key role for promulgation of e-Laws and for awareness among Legal, corporate, Govt. and Banking sector.

1.8 Digital Certificate:

Certification Authority (Verisign) has been established in private sector by NIFT, to issue the digital certificates to corporate and citizen. The digital certificates are available now in Pakistan.

SECTION II – EDIFACT/ ebXML/ XML Based STANDARDS DEVELOPMENT

2.1 Internet Merchant Account

- Internet merchant account facility for Small and Medium Enterprises exporters is available through Citibank. Goods and services are being transacted successfully through payment gateway since last 4 years.

2.2 B2B Exchange for International Trade

The basic purpose of the project is to provide a B2B Electronic Document Exchange for International trade and services. The goals to be achieved are:

1. Enable electronic exchange of commercial documents in domestic and international trade.
2. Design standard forms, redesign reporting and approval procedures for bill of Entry/Exports, I/E forms, registrations etc.
3. Develop consensus among Customs, State Bank of Pakistan, Export Promotion Bureau, Ports, Shipping Lines, Airlines, clearing and forwarding agents, traders, banks, trade and industry associations and other stakeholders on standards.

Status:

- Clearing agents and exporters / importers can submit online data / transactions for export and import transactions to Customs and port authorities.
- Pakistan Customs Computerized System (PACCS) is being run on at Karachi International Container Terminal. PACCS is an implementation of MicroClear from PWC Logistics, Kuwait.
- The Ministry of Commerce has completed Trade and Transport Facilitation Project (TTFP) Part 1, financed by a World Bank, with technical assistance from UNCTAD (www.nttfc.org). TTFP introduced the Pakistan Goods Declaration (GD) form to replace old manual shipping bill. World Bank is announcing TTFP II program shortly, with larger component of ICT and e-Logistics.
- SMEDA (Small and Medium Enterprise Authority) has launched Industrial Information Network portal (www.iin.gov.pk) for B2B trade match making. SMEDA is already playing a lead role in facilitating small and medium enterprises for their business needs.
- Export Promotion Bureau has launched B2B matchmaking portal (www.epb.gov.pk) to facilitate exporters and importers. EPB, an arm of Ministry of Commerce, leads the efforts to facilitate exporters and importers and looks after international trade.
- Private sector has started efforts to launch e-Trade exchange in collaboration with foreign ASPs in the region and solution providers.
- Ministry of Commerce has assigned study on Single Window to a leading consulting firm. It would be completed in next 3 months time.

Major developments in Electronic Customs Clearance (PACCS)

One Window

PACCS is a one-window system; it can connect to PACCS over the web and carry out all activities related to Customs from anywhere in Pakistan, by customs agents, importers and exporters.

24X7 system

PACCS is a twenty-four-by-seven system.

Paperless environment

PACCS is completely paperless, all documents and declarations (Bills of Entry, Shipping Bills, Refund applications, etc) are all electronic and available online.

Virtual System

PACCS is independent of geography. You can import, export and conduct all other activity with Customs from anywhere in the country. For instance, you can file your declaration over the web from your head office in Islamabad, pay your duties through an Online Bank from a field office in Lahore and get your goods cleared for a factory in Karachi.

Automation

PACCS is completely automated. Highly advanced Processing and Risk Management Systems process all declarations. All information regarding receipt of request, clearance of cargo is delivered online. In case any clarifications regarding declaration are deemed necessary; are intimated online.

Self Assessment

Under PACCS Customs does not interfere in the process of discharge of legal liabilities of duties and taxes. On submission of declaration instant online receipt is issued in the shape of Customs Reference Number (CRN) also known as Machine Number.

Processing of Declaration

The moment a CRN is allotted, the Risk Management System commences the processing of declaration. The studies indicate that up to 80% of trade is by responsible and legitimate businesses and does not pose a threat to the country or the exchequer. In all such cases the cargo will be cleared and importer will be intimated online. The process takes less than 15 seconds. In case a threat is detected, detailed scrutiny including examination of cargo may be undertaken.

Risk Management

PACCS has a highly sophisticated automated Risk Management System. Under PACCS the traffic of containers flowing through our ports is not disturbed. Customs keeps a vigilant eye on the flow and intercepts only those consignments as are perceived to pose a threat to the country or its exchequer. Such instances are verified and in case the threat is not real, cargo is expeditiously returned to its normal flow. Certain consignments may be verified on random basis.

No un-receipted Expense

All processes of PACCS have been designed to ensure that the trade does not incur any un-receipted expense in clearance of the cargo. Every step of Customs clearance is documented and it is ensured that the tax collectors do not come into contact with the taxpayers thus eliminating any chances of foul play. A transparent system gives Customs officials greater confidence in performance of their duties since they are protected against fictitious allegations of wrongdoing.

Instant Duty drawbacks / Rebates

Under PACCS the Goods Declaration (Shipping Bill) is in itself a request for rebate. Form-E's are not required to be presented to Customs instead Form-E number is entered as part of GD. For sanction of rebate claims exporter are not required to await Bank Credit Advices (BCA). In order to obtain rebates all to do is file a Goods Declaration to Customs, the due rebate will be computed and sanctioned to with the sailing of the vessel. Filing a separate rebate claim and calculation sheet on receipt of BCA are no longer required.

SECTION III –Trade Facilitation / e-Business / e-Commerce Related PROJECT UPDATES

3.1 National Trade Corridor

The Prime Minister of Pakistan has directed to establish Task Force under the Deputy Chairman Planning Commission, with secretaries of the Ministries of Communications, Commerce, Ports & Shipping, Central Board of Revenue, and Ministry of IT as member. Several steps have been taken in phases to improve transportation logistics chain, on the basis of the inadequacies and weaknesses identified that include non-availability of information in electronic form. World Bank has been force behind the Trade and Transportation Facilitation Project in Pakistan, trade and logistics facilitation project is part of this mega project.

3.2 Progress in Financial Sector

Financial sector has spent over US$350/Million during 2005-6 in ICT infrastructure, new projects, maintenance, human resource development and services.

World Bank funded US $ 30 million (5 years) project is at end of its implementation at the State Bank of Pakistan to interlink countrywide regional office network of central bank. RTGS project is underway with backward linkages to commercial banks and clearinghouse, and would be completed this year.

The commercial banks have shown robust performance during 2005-6, and average profitability has increased by 40%. Improved ICT infrastructure and use of IT services has played key role in improving bank's performance and productivity.

3500 commercial banks branches are online now; out of 7000 branches in the country. 90% of the urban area branches are online. 1100 bank's branches are authorized to deal in foreign exchange.

Several licensed exchange companies are handling foreign exchange business, under guidance and rules of State Bank of Pakistan. Plans are underway to link these companies for better control. Some of the companies has started offering online funds transfer for workers remittances and have good response.

Two ATM switches are operating with countrywide network of over 1200 ATMs. 4.1/Million ATM / Debit cards have been issued with 1.2/Million credit cards. Smart cards, stored value cards, loyalty cards and pre-paid cards have become part of the culture in urban cities.

Five POS switch networks are operational with 30,000 POS terminals, with two Loyalty

card networks.

Payment gateway by Citibank for Internet B2C transactions is in operation since last four years. Airlines, mobile companies, ISPs and merchants are using service with good turnover of Internet transactions.

Automated check clearing house (NIFT a Public-Private company owned 51% by banks) is operational in 14 cities of Pakistan, with turnover of 60/m/checks/year. Efforts are underway, in private sector, to establish Electronic Check Clearing House (ECH), B2B EFT and B2C Payment Gateway.

Mobile phone banking services are available with couple of banks, where customer can use the service for payment of utility bills and perform several other transactions online.

Following projects are at various stages of implementation in private and public sector:

- Utility billing with e-Payments
- E-Security Infrastructure
- Mobile Payment Gateway
- E-Money, Digital cash, Smart cards, Offline POS
- Payment Gateway for Internet / POS transactions
- Money Exchanges Reporting
- Workers Remittance project for Non Resident Pakistanis
- Foreign exchange reconciliation for Import / Exports and services
- Capital market integration with payment system

Government sector:

US$37/million funded World Bank PIFRA project is being implemented in AGPR.

Online Billing project of US$35/M is also underway for PTCL billing that would be linked to the banks.

Central Board of Revenue has initiated online payment of income tax, and for duty payment.

National Registration Authority is proving utility bill payment facility through Utility Kiosk.

e-Government has funded several projects and now supervising implementation process.

PHILIPPINES Progress Report

Philippines Exporters Confederation, Inc.

2006 Country Progress Report : PHILIPPINES

SECTION I - GENERAL CONDITION UPDATE

1.1 IT Infrastructure in the Philippines

The IT industry in the Philippines comprises the electronics sector, information and communication technology (ICT), and IT-enabled services (ITES). In 2005, the electronics sector accounted for $27.3 billion and almost 70% of the country's exports, with a total workforce of 230,000 engineers and technicians. The export industry includes components and devices (semiconductor or chipset production), consumer electronics, office equipment, electronic data processing, telecommunications, communications and radar, medical and industrial and automotive electronics. On the other hand, IT and IT-enabled services have a total workforce of 162,250 and estimated revenues of $2.4 billion as of end-2005. It consists of call center and business process outsourcing (BPO), software development, medical and other data transcription, animation and digital content, and engineering design.

BPO has most prominence in the country. There are two segments in BPO:

- Voice-based BPO with consolidated industry revenues (2005) of $1.2 billion
- Data-based BPO with consolidated industry revenues (2005) of $630 million

Some of the emerging sectors in the BPO are legal and medical data outsourcing, financial & accounting, logistics and energy-related outsourcing, and architecture and engineering services. The BPO services market is expected to grow by at least 40% to $2.4 Billion by the end of 2006. The IT services market is expected to grow by at least 36% to $1.14 Billion by the end of 2006.

Telecommunications support involves the presence of fiber optic cable in most regions, redundant international connectivity, and the presence of multiple telecommunication providers. The country's telecommunications is competitive in price and its quality is above average, especially for the international segment, enjoying multiple landing sites for submarine cables. Competition over the past four years have been lowering prices 30% to 40% annually: in 2005, the industry rate for an E1 line was anywhere from $2,500 to $3,000. Meanwhile, connections are upgrading to DS3 or MTLS.

Locations with Good Infrastructure, according to industry players:

- Within Metro Manila – Makati City, Quezon City, Ortigas Center, Muntinlupa, Taguig particularly Fort Bonifacio.

- Outside Metro Manila – Cebu City, Clark Special Economic Zone, Baguio City, Davao City. Slowly catching up as preferred locations are Cagayan de Oro, Iloilo City and Dumaguete City, Morong, Bataan.

There are still areas to improve in Philippine telecommunication support. One is the post sales service quality, particularly the immediate resolution of outages, as well as general network and infrastructure management. Telecommunication is also still concentrated in Metro Manila, which has 40% of installed fixed lines and 50% of all broadband installation.

Another area that has to be addressed is human resource development. Currently, hiring rate is only 3%-10% of all applicants (though there are, notably, 5 “near-hires” for every hire), even as government targets 1 million jobs in cyberservices by 2010. About half of these are expected to come from college graduates, while the rest will be provided – with roughly equal shares – from the ranks of the unemployed and underemployed professionals, from returning overseas Filipino workers, from Filipino migrants who may have changed nationality, and from career shifters and retirees. Government programs to improve human resources are pushing:

- Career Advocacy (How do we get more Filipinos to be interested in a career in cyberservices?);
- Curriculum Review and Faculty Retraining (Are we preparing Filipinos to be knowledge workers in an information society?); and
- English Proficiency (What can we do to avoid job rejection due to lack of English proficiency?).

Meanwhile, the Commission for Information and Communication Technology (CICT) very recently defined its guiding principles in developing the ICT roadmap for the Philippines for the years 2006-2010, consultation on which is ongoing:

- CICT is committed to realizing the goal of a “people-centered, inclusive and development-oriented information society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life.”
- CICT believes that the Government’s primary role in ICT development is to provide an enabling policy, legal and regulatory environment where necessary.
- CICT is devoted to a ‘multistakeholder approach’ to ICT for development.”
- CICT sees ICT is a tool for sustainable development. Plans and programs to use ICT for developmental purposes should have the following attributes:
  - Accessibility: online access to services must be extended to all citizens and must cater to the needs of different stakeholders.
  - Availability: ICT services to all citizens anytime; it should be available 24 x 7 x 366, at home, at the office, in schools, in libraries and other convenient public locations.

- Secure and accountable: standards should be set for resolving security, privacy, non-repudiation, authentication issues to engender trust in the use of ICT services.
- Interoperability: online services should be able to link seamlessly to existing back-end systems and across different agencies and platforms.
- Sustainable: it should eventually be transaction based, cost effective, revenue generating and self-financing.

- CICT will promote the development digital content that is relevant and meaningful to Filipinos.
- CICT endeavors to create a safe, trustworthy online environment for all Filipinos.
- CICT needs to transform itself into a strong organization to facilitate ICT development and ICT for development in the country.

With these guiding principles, CICT is now crafting the "enterprise architecture" of government ICT, currently in the "IT governance" part which consists of at least four processes, 1) strategic planning; 2) enterprise architecture; 3) business case discipline; and 4) portfolio management.

CICT is also transforming and rationalizing the Telecommunications Office (Telof), a national government agency acting as a common carrier, to become the manager for the government's integrated telecommunications network. The Philippine government's contact points with its citizens are the barangays (41,939), municipalities (1,501), city halls (117), and provincial capitals (79), a total of 43,636 government sites. These will be aggregated into groups and connected to 117 concentration hubs, corresponding to the number of existing Telof exchange sites. These 117 concentration hubs will be linked to government's service providers -- the 375 departments, commissions, bureaus, agencies, etc. – which services will be integrated across two or three interconnected concentration service hubs. Citizens' portals, defended by best-of-breed security applications, will be located at the concentration service hubs, and will assure that the government telecommunications network can provide secure access and is able to share information and knowledge within reasonable response times and availability.

CICT also continues support for the enactment of laws pertaining to cybercrime, data privacy, e-mail, spam and cyberpornography. It has actively participated in government's efforts to promote and implement cybersecurity, taking the lead role in the cybersecurity working group to prepare the Philippine National Cybersecurity plan. It also participated in and hosted the 2nd ASEAN Regional Forum Seminar on cyber terrorism. CICT will also implement the National Broadband Plan, which will provide adequate bandwidth to support broadband connectivity, widespread and intensive ICT use throughout the country, with public access points in key cities, municipalities and rural barangays by 2010.

1.2 Policy Initiatives on Trade Facilitation

1.2.1 Subic-Clark-Kaohsiung Economic Corridor

The Philippines and Taiwan signed an agreement in December 2005 that will establish the Subic-Clark-Kaohsiung economic corridor, in order to facilitate the flow of investments and goods between the two trading partners. The "economic corridor" will allow parallel registration of locators in the special economic zones to enjoy similar incentives and benefits and allow the free movement of goods, capital, human resources and services. The arrangement would allow Taiwan to tap into the ASEAN Free Trade Agreement (AFTA) and the ASEAN + 3 arrangement with Japan, China and Korea through the Philippines. The Philippines is also looking at the expansion and development of both Subic and Clark to make them more viable offshore platforms for Taiwan's cluster industries, particularly as an alternative to China for, say, electronics manufacturing, and a possible extension for heavy industries.

1.2.2 Executive Order 482 on Creation of a National Single Window (NSW) Task Force for Cargo Clearance

President Gloria Macapagal-Arroyo issued EO 482 creating this Task Force, which will be composed of a Steering Committee from government agencies and a Technical Working Group. The Steering Committee will set policy guidelines for the operation of the NSW and the ASEAN Single Window (ASW), and ensure effective and efficient implementation of both. The technical working group, on the other hand, will identify common definitions and datasets to be able to standardize data, information and processes intended for integration; create a general conceptual framework, mechanisms and other information technology instruments necessary in the integration process ensuring data integrity and security.

1.2.3 Issuances of the National Telecommunications Commission

The National Telecommunications is the Philippine regulatory body on telecommunications. Over the past 12 months, it has issued regulations on radio frequency identification (RFID) frequencies, 3G services spectrum bands, and Voice over Internet Protocol (VOIP), among others. It has also sounded off stakeholders on regulations regarding "scam" via cellular phone text messaging and initiated work with the Intellectual Property Office (IPO) on the prosecution of cable TV piracy.

NTC provided the following frequency bands for RFID, with maximum effective radiated power for readers at 500 milliwatts for low power and 2 watts for high power, with only approved/accepted proximity readers being purchased from authorized radio dealers:

- 13.553 - 13.567 MHz
- 918 – 920 MHz

- 2446 – 2454 MHz

Implementing rules released by NTC on VoIP allow non-telcos to compete with telecommunications companies in offering internet telephony, with non-telco providers and resellers riding on the infrastructure of telcos in providing VoIP, as mandated by Republic Act 7925. Under NTC Memorandum Order 03-11-2005 or Guidelines for the Registration of VoIP Service Providers and Resellers, VoIP service providers should have P10 million paid-up capital, pay annual registration fee of P50,000 , and post performance bonds worth P5 million. For VoIP resellers, NTC requires posting of performance bonds worth P1 million and an annual registration fee of P5,000.

RA 7925 stated that only telecommunications entities with congressional franchise can roll out voice services. Non-holders of congressional franchise cannot venture into telecommunication service. NTC defined VoIP as a cheap voice service that breaks down voice into digital packets and sends them over the Internet. To avoid potential legal challenges to this ruling, the legislature has pending bills that explicitly push for the provision of VoIP by non-telcos.

Under the new guidelines issued by the NTC for the allocation of 3G frequency bands, certain bands have been identified which will be assigned to not more than five qualified public telecommunications entities (PTE). Licenses were awarded to four companies:

- Smart Communications, a subsidiary of Philippine Long Distance Telephone Co. (PLDT), which chose the 1920- to 1935 Mhz and 2110 to 2125 frequency spectrum, along with three channels of 15 megahertz each
- Globe Telecom got the 1945 to 1955 and the 2135 to 2145 Mhz frequency spectrum, and two channels amounting to 10
- Digital Mobile Philippines or Digitel was awarded the 1935 to 1945 and the 2125 to 2135 Mhz frequency spectrum
- Connectivity Unlimited Resources Enterprises (CURE), a new player, was given the 1955 to 1965 and the 2145 to 2155 Mhz frequency.

The grading system was based on the capacity of applicants to satisfy the Section 3.6 of NTC's 3G ruling. Prospective 3G carriers should:

- introduce 3G services in 80% of provincial capital towns and cities, and 80% of chartered cities nationwide within five years from the award of the 3G license;
- interconnect and negotiate roaming agreements with all local 3G networks and other cellular and landline operators; and
- share its network and facilities with competing 3G players in areas where demand does not allow more than one 3G network.

Earlier, the NTC said it would award six frequencies for 3G -- 825-845 megahertz (MHz), 870-890 MHz, 1880-1900 MHz, 1920-1980 MHz, 2110-2170 MHz, and 2010-2025 MHz. Nine applicants petitioned the commission for the frequencies. There are four companies still competing for the fifth 3G license slot. The unawarded frequencies have been reserved by the NTC for further bidding in case of overcapacity.

New operators as well as existing CMTS providers opting to upgrade their networks to 3G qualified as applicants for the assignment of 3G frequencies, provided they were holders of a valid congressional franchise, with a minimum paid-up capital stock of P100 million in case of new PTEs. For existing PTEs, debt to equity ratio was set at 70:30 with total investments in the CMTS or 3G networks of at least P400 million already included in calculating the ratio. All must prove technical capability to install, operate and maintain the proposed network, as well as submit a five-year roll-out plan to cover at least 80 percent of the provincial capital towns/cities and 80 percent of the chartered cities.

Applicants were further required to submit a written undertaking that it shall interconnect with all 3G networks, cellular mobile telephone networks, local exchange networks and all other public networks pursuant to existing laws, rules and regulations on mandatory interconnection. An applicant must also submit a written undertaking that it shall allow the sharing of its network and facilities with other 3G players in areas where demand does not allow more than one 3G network, as well as negotiate roaming agreements with other 3G networks or existing duly authorized CMTS service providers.

NTC is also conducting consultations on a stop-gap measure against mobile spam that is patterned after a Hong Kong policy, even as a comprehensive anti-spam law is being considered by the legislature. Under the proposed model, subscribers who want to get rid of future unsolicited commercial and promotional advertisement or survey should inform the Commission by sending a text message to a hotline number or by personally filing up a form at the NTC office. Their numbers will be included in the "not-to-text" database set for distribution to all telecommunication operators and their content developers. Sanctions for telecom companies and their operators include P200 per violation per subscriber, suspension or cancellation or permits and blacklisting.

NTC signed a memorandum of agreement (MOA) with IPO for cooperation in the enforcement and protection of IP rights in the cable TV industry, with the IPO adjudicating or resolving cases involving any cable-related IP rights infringement. NTC then endorsed 30 pending cable piracy complaints, on one of which IPO immediately filed suit. The Philippine Cable TV Association said estimated foregone revenues from piracy stood at P7 billion annually, in which some 1.5 million cable subscribers are said to be illegally connected. The industry has about 1,400 authorized operators to date.

1.2.4 Electronic Payment Guidelines

The Congressional Oversight Committee on E-Commerce Law and the Bureau of Treasury (BTr), in early 2006, drafted guidelines and formed a technical working group on government's electronic payment system. The guidelines/circular were issued to prescribe policies and procedures as well as to define the duties and responsibilities of National Collecting Officers and Local Treasurers in the adoption of Electronic Payment and Collection Systems and the use of electronic data messages, electronic documents, and electronic signatures in government transactions.

The guidelines are expected to bring about more efficient and effective payment and collection services for the transacting citizens and among the government offices through any authorized electronic payment and collection system, allowing the government to better manage its financial resources thereby improving its revenue generation capability (Draft Joint Department Administrative Order: Guidelines on Electronic Payment and Collection System in Government, 2006).

The TWG essentially put together the major stakeholders in the private and government sectors to comment on and refine the draft e-payment guidelines. The government agencies, among others, are: Professional Regulation Commission, CICT, NCC, National Bureau of Investigation, National Statistics Office, Department of Foreign Affairs, Land Transportation Office, Bureau of Customs, Land Registration Authority, Land Bank of the Philippines, Development Bank of the Philippines, Commission on Audit, Department of Budget and Management, Department of Trade and Industry and BTr.

A current form of ePayment in the government can be seen in the Philippine Economic Zone Authority, where its Automated Import Permit already includes electronic payment of import permit fees.

1.3 Statistical Information

1.3.1 Telephone Subscribers

There are reportedly 6.5 million installed telephone lines nationwide, of which 3.4 million are subscribed, giving a national teledensity of 7.83% on installed and 4.16% on subscribed lines. The National Capital region's teledensity is more than three-fold that of the national level, at 25.19% 15.15% respectively.

NO. OF TELEPHONE SUBSCRIBERS PER OPERATOR 2004					
OPERATOR		INSTALLED	SUBSCRIBED	MARKET SHARE (%)	
		LINES	LINES	INSTALLED	SUBSCRIBED
BAYANTEL	*	443,910	227,057	6.86	6.61
BELL TELECOM	*	12,710	1,942	0.20	0.06
DIGITEL		633,190	412,618	9.78	12.00
ETPI/TTPI		88,990	28,853	1.37	0.84
INNOVE		1,507,197	329,908	23.28	9.60
PHILCOM		187,629	46,122	2.90	1.34
PILTEL		236,561	36,956	3.65	1.08
PLDT	**	2,912,129	2,115,561	44.99	61.54
PT&T		129,000	33,022	1.99	0.96
OTHER LECS		321,735	205,452	4.97	5.98
TOTAL		6,473,051	3,437,491	100.00	100.00

* No report submitted for Dec. 2004.
** As of Sept. 2004

NO OF TELEPHONE SUBSCRIBERS PER REGION 2004					
REGION	POPULATION	INSTALLED	SUBSCRIBED	TELEDENSITY	
		LINES	LINES	Installed	Subscribed
CAR	1,522,654	94,079	35,713	6.18	2.35
I	4,413,599	190,335	107,890	4.31	2.44
II	3,031,999	42,860	26,939	1.41	0.89
III	8,278,712	410,841	281,842	4.96	3.40
IV	12,508,472	1,049,413	588,688	8.39	4.71
V	5,083,404	125,157	72,647	2.46	1.43
VI	6,772,424	427,497	132,482	6.31	1.96
VII	5,962,484	470,299	227,468	7.89	3.81
VIII	4,055,416	151,652	27,737	3.74	0.68
IX	3,448,619	35,945	25,172	1.04	0.73
X	3,127,438	147,513	50,942	4.72	1.63
XI	5,781,992	295,334	111,106	5.11	1.92
XII	2,909,499	82,616	31,393	2.84	1.08
XIII	2,273,936	117,116	31,002	5.15	1.36
ARMM	2,368,698	33,315	2,834	1.41	0.12
NCR	11,112,687	2,799,079	1,683,636	25.19	15.15
TOTAL	82,652,033	6,473,051	3,437,491	7.83	4.16

1.3.2 Internet Situationer

Data provided by the Congressional Oversight Committee on E-Commerce Law indicate that the Philippines is not doing too badly on Internet usage compared to its neighbors. Significantly, though, there are 4 internet users per subscribers, indicating extensive use of commercial internet cafes and public facilities, rather than private subscriptions, for access.

Data Source: Icann.org, Gartner, ZdNet, Biz-Lib.com, ClickZ.com

	Philippines	Hong Kong	Thailand	Malaysia	Singapore	Vietnam	Indonesia
Population	87,960,000	6,900,000	65,440,000	24,000,000	4,430,000	83,540,000	241,970,000
Internet users	11,300,000	4,580,000	10,000,000	10,040,000	2,750,000	2,000,000	16,000,000
Internet subscribers	3,200,000	2,600,000	6,300,000	3,000,000	956,000	400,000	1,500,000
Broadband subscribers	125,000	1,600,000	300,000	340,000	500,000	60,000	100,000
Number of national domains	5,000 to 50,000	64,440	5,000 to 50,000	5,000 to 50,000	5,000 to 50,000	less than 5000	5,000 to 50,000
Annual domain name fee (USD$)	35	25.77	20	26.59	47.24	100	15.91
Mobile phone subscribers	32,800,000	8,100,000	30,000,000	14,600,000	3,900,000	5,000,000	40,000,000
PCs sold in 2004	342,600	661,300	1,494,700	1,035,400	566,800	273,300	698,800

Internet Service		
Year	No. of NTC-Registered ISPs	Estimated No. of Subscribers
2000	34	400,000
2001	64	500,000
2002	53	800,000
2003	41	1,000,000
2004	43	1,200,000

1.3.3 Status of Web Presence of National Government Agencies

Section 27 of the Electronic Commerce Act directed all agencies in government to employ the use of electronic means in the various government transactions. As of the first quarter of 2006, less than 8% of national government agencies did not have websites.

NATIONWIDE	With Website							Without Website
	Stage 1	*Stage 2*	*Stage 3*	*Stage 4*	*Stage 5*	*Total*	*%*	
375 NGAs	58	136	144	8	0	346	92.3	29

However, only 8 agencies were evaluated as having a "transactional web presence", or Stage 4 of the United Nations classification of the 5 stages of eGovernment, and none has a "fully integrated web presence" or Stage 5. Most are in Stages 1 and 2, with enhanced and interactive web presences. The most advanced Philippine government agencies in transacting over the Internet were:

- BUREAU OF INTERNAL REVENUE (www.bir.gov.ph)
- SECURITIES AND EXCHANGE COMMISSION (www.sec.gov.ph)
- PHILIPPINE HEALTH INSURANCE CORPORATION (www.philhealth.gov.ph)
- NATIONAL STATISTICS OFFICE (www.census.gov.ph)
- DEVELOPMENT BANK OF THE PHILIPPINES (www.devbankphil.com.ph; http://epayment.devbankphil.com.ph)
- GOVERNMENT SERVICE INSURANCE SYSTEM (www.gsis.gov.ph)
- LAND BANK OF THE PHILIPPINES (www.landbank.com; www.lbp-iaccess.com)
- PHILIPPINE AMUSEMENT AND GAMING CORPORATION (www.casinofilipino-online.com)

Considering the degree of cellphone usage in the Philippines, many government agencies were also using short messaging services (SMS)/text services: 47 as of March 2006. The services provided Information access and handled queries, complaints and feedback, suggestions, and recommendations.

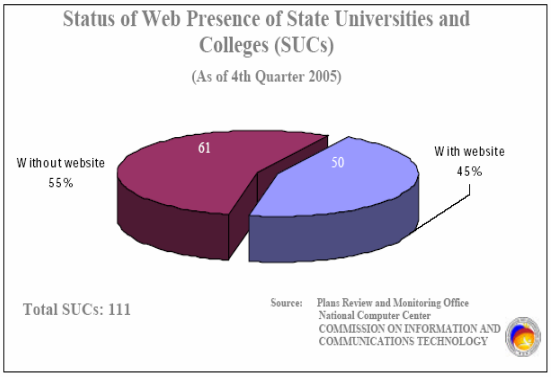
1.3.4 Status of Web Presence of Local Government Units

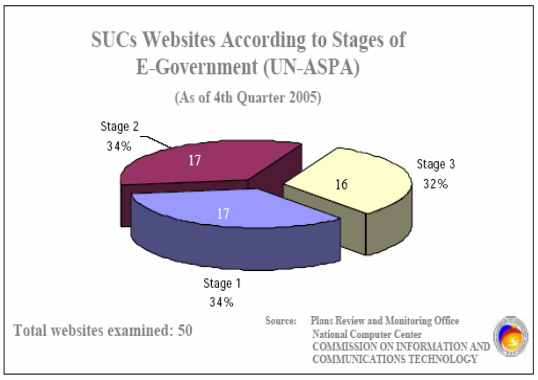
As of December 2005, less than 2% of local government units did not have websites; however, none of the websites achieved Stage 4 or 5 status.

NATIONWIDE	With Website							Without Website	Total LGUs
	Stage 1	*Stage 2*	*Stage 3*	*Stage 4*	*Stage 5*	*Total*	*%*		
Cities	19	75	18	0	0	112	95.7	5	117
Provinces	16	46	12	0	0	74	93.7	5	79
Municipalities	1,230	211	48	0	0	1,489	99.3	11	1,500
Total	1,265	332	78	0	0	1,675	98.8	21	1,696

1.3.5 Status of Web Presence of State Universities/Colleges

As of December 2005, over half of 111 state universities and colleges monitored by NCC did not have websites; none of those with websites achieved Stage 4 or 5 status.





SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 Automated Customs Systems

2.1.1 ASYCUDAWorld (e-Customs) Project

The ASYCUDAWorld (e-Customs) Project is intended to upgrade and enhance the core and support systems of the Bureau of Customs, including the hardware and network infrastructure, such as servers and workstations. The project is composed of four major components: Application system, Implementation roll-out, operations facilities and technical architecture and Change Management and Training.

ASYCUDAWorld offers the following enhancements to the current ASYCUDA++ system:

- Online submission of declarations
- Automatic advise on declaration status
- Use of value added service partners
- Online submission of manifests by airlines and shipping lines, including deconsolidators
- Automated process for other types of import transactions such as informal (including passenger baggage system), warehousing and transshipment entries
- Automated process for liquidation of raw materials
- Centralized management of bonds transactions
- Links with relevant government agencies
- Online resource access through BOC website on issuances, processes, policies, guidelines and other related information.

The BOC portal is an internet-enabled facility that allows the stakeholders to gain access to relevant BOC information, exchange electronic data in and outside the organization and perform online transactions with various BOC groups. The BOC Portal System is composed of six (6) sub-systems, namely: Information website, personalized content management (PCM), Value Added Service Provider (VASP) gateway, BOC-BAP gateway, inter-agency information exchange gateway and regional information gateway. Moreover, RosettaNet Standards is also adopted for this eCustoms project.

Additionally, the BOC has partnered with the Bankers Association of the Philippines (BAP) to develop a comprehensive payment system that will provide the clients various modes of payment for their duties, taxes and fees applicable for their transactions.

The Client Profile System will serve as a central repository of data pertinent to BOC clients and stakeholders, both internal and external, and will include exporters and other

government agencies that conduct business with the Bureau. It involves the process of capturing client information during the accreditation and registration of the various BOC stakeholders. The captured information is stored in a central database to allow easy access to stakeholders' information by operating units and systems serving line functions. Although, data exchange between BOC and other parties is not yet possible here. The client profile information stays with BOC.

Lastly, the Exports Processing System (EPS) handles the processing of export entries and bonds from lodgment and processing of export declaration to bonds cancellation and raw materials liquidation. EPS is composed of three (3) systems namely, Automated Exports Document System (AEDS), Automated Bonds Management System (ABMS) and Raw Materials Liquidation System (RMLS).

2.1.2 Value Added Service Partners (VASPs)

VASPs are proficient IT companies in the private sector that implement customs–specific operations and internet-based applications, carrying out value adding services for their clients. Like an internet café, a VASP offers a facility for the clients to carry out their business with the Bureau using the internet covering all the value added services it supplies. VASPs make use of internet-based application to electronically acquire transaction data from our clients and carry out preliminary validation in agreement to the requirements of the BOC. Both import and export declarations will be submitted through the VASPs. Exceptions will only be considered in accordance with policy pronouncements.

2.1.3 Compliance with the Revised Kyoto Convention

The Philippines is currently undertaking research on Philippine compliance with the Revised Kyoto Convention (RKC). The project, at this stage, will ensure agreement and support among policymakers and stakeholders of Philippine strategies for RKC compliance, define a national work plan for ensuring such compliance, and initiate public dissemination of information on the Convention and Philippine intentions on compliance.

SECTION III – TRADE FACILITATION / eBUSINESS / eCOMMERCE RELATED PROJECT UPDATES

3.1 E – Government

3.1.1 PhilHealth e- Pay

The Philippine Health Insurance Corporation (PhilHealth) under the Department of Health (DOH) introduced an online payment facility. Through the e – payment facility of the Union Bank, employers can now pay their PhilHealth premiums online. The PhilHealth e- Pay offers electronic messaging facility for effective transmission and processing of the contributions made to PhilHealth. Through the PhilHealth e – Pay faster processing of benefit claims will arise because employees' contributions will be posted monthly and with just a matter of days.

3.1.2 Securities and Exchange Commission – iRegister

SEC – iRegister is an online/web – based Company Registration System of the Securities and Exchange Commission. Clients are able to do the following online:

- verify the availability of the desired name for partnership or corporation
- reserve the verified name
- accomplish and print the registration online without the need to purchase the SEC forms
- register on – line of business organization
- deposit the paid – up capital online
- pay the appropriate registration fees online
- receive notice of approval within the same day

3.1.3 E- Filing and Payment System

Under the Department of Finance, the Bureau of Internal Revenue through its website (www.bir.gov.ph) came up with an online payment system called the e-FPS (e- Filing and Payment System). Processing and transmission of tax return information can be made over the internet through the website. Using internet banking service through debit from their enrolled bank account, taxpayers can file taxes without queuing and pay online.

3.1.4 National Statistics Office e- Census

Under the National Economic and Development Authority (NEDA), the National Statistics Office came up with e- Census through which the public could apply for civil registry documents online. This includes birth, marriage and death certificates. The following

operations may be done online through e- Census:

- request for copies of the documents mentioned above
- online payment for the requested document
- verify the status of requests
- download application forms

3.1.5 GSIS eGranting

One of the significant initiatives that the Government Service Insurance System made was its loan facility called the eGranting, allowing members to apply for Cash Advance loan thru the eGSIS Website (www.gsis.gov.ph) at their own convenience, with the proceeds of the loan being applied for being credited to the member's GSIS eCard account. GSIS also came up with a GSIS e- Card Registration facility that provides a venue for the members to register online so they could access and use the e-GSIS site.

3.1.6 Unified Multi-Purpose ID (UMID)

The implementation procedure for the UMID project recently finalized provides a two-year implementation period with three phases until every Filipino citizen has a UMID for transactions with government. The project will streamline the number of government-issued identification cards and minimize the cost of producing many IDs for one Filipino citizen. The group which is in-charge of UMID is composed of heads from the National Economic and Development Authority (NEDA), the National Statistics Office (NSO), the Government Service Insurance System (GSIS), the Social Security System (SSS), Philippine Health Insurance Corporation (PhilHealth) and Pag-IBIG Fund.

The three phases of the project are as follows:

- Phase 1 is the feasibility study and creation of the UMID.
- The UM-ID shall be piloted, starting in the 3rd quarter of 2006, in three agencies: NSO, NEDA and PhilHealth. Some 2,000 ID cards with CRNs are expected to be generated during the pilot, with half of that number coming from PhilHealth. The pilot represents Phase II of the implementation of the UMID as provided in Rule VIII of the IRR.
- Phase III, which is the full implementation of the UM-ID is set to commence by the first quarter of 2007, which will expand the coverage of the pilot to include the employees of other government agencies, as well as the members of other ID card issuing agencies like the SSS, GSIS, the Philippine Postal Corporation, and the Housing Development Mutual Fund (Pag-IBIG).

3.1.7 Government to use VOIP

NCC is pilot testing a wide-area network (WAN) project that will integrate all government offices into one single network using VoIP as a primary service. This will be implemented starting with the Office of the President in Manila and nearby government offices, particularly the Department of Budget and Management (DBM). NCC will also be formulating a five-year implementation plan that will integrate all government agencies into a single VoIP network down to the barangay level.

3.1.8 Community E-Centers (CeCs)

The establishment of CeCs nationwide is undertaken to facilitate and expedite LGUs' and the local communities' transformation into better equipped, empowered organizations capable of participating proactively and co-existing competitively with global counterparts in the digital economy. As of April 2006, ninety (90) CeCs have been identified, forty (40) of which have been established while fifty (50) are under establishment.

3.1.9 eCare Center for PWDs

The APEC Digital Opportunity Center (ADOC) office in Manila, in cooperation with the CICT and the Bagong Henerasyon (BH) Foundation, Inc. recently inaugurated the electronic Care (eCare) Center for persons with disabilities (PWDs), with assistance from the Chinese Taipei program to ensure that the benefits of ICT reach all parts of Asia Pacific, both geographically and sectorally.

Similar to other training centers, the eCare Center has a local area network (LAN), work stations and standard computer peripherals. Commonly-used operating system as well as standard applications are installed on the computers. In addition, the computers are provided with a high-speed Internet connection and a special type of software for the PWDs to help them access ICT.

The Bagong Henerasyon (BH) Foundation will be managing the operations of the training center for a period of three years. The courses which are for free will train the parent and child teams in the use of the ICT.Institutions such as Adaptive Technology for Rehabilitation, Integration and Empowerment of Visually Impaired (ATRIEV), Philippine Federation of the Deaf, and the National Council for the Welfare of Disabled Persons (NCWDP) will be working hand-in-hand with Bagong Henerasyon (BH) Foundation.

3.1.10 eLib – public electronic library

The Philippines first public electronic library at www.elib.gov.ph called "eLib" holds a collection of more than 800,000 bibliographic records, 25 million pages of Philippine materials,

29,000 full-text journals and 15,000 theses and dissertations at the National Library. eLib uses Kodaks Sunrise 2000 technology to convert text and other materials stored in microfilm into digitized format, with partner MicroData Inc. overseeing the administrative side. The materials undergo quality assessment and are loaded into DVD before they are uploaded onto the website.

The National Library works with four other participating government agencies -- University of the Philippines (UP), Department of Science and Technology (DOST), Department of Agriculture (DA), and the Commission on Higher Education (CHED) – to provide quality access to the union catalogue of the five partners, digitized Filipiniana materials including theses and dissertations, special collections and researches, and online resources and subscription to electronic databases. Each agency has a set of digitization equipment such as a book scanner, film scanner and computers.

At the database center of the National Library are five file servers, while four are in the UP main library mirror site. The mass database storage where digitized images are kept consists of about 15 terabytes and runs 24 hours daily with a back-up battery and generator. The Philippine eLib is a collaborative project and funded by the national government through the e-government fund.

3.2 Other Significant Initiatives

3.2.1 Smart Schools

Mobile operator Smart Communications is allowing the internet to change the way education is carried out in public high schools in the Philippines. Teachers narrated how students are successfully passing scholarship applications online and currently studying abroad thanks to the internet. There are a total of 37 public high schools around the country that included in this Smart Schools program. Smart is trying to tap into Philippine Long Distance Telephone Company's network in supplying unlimited internet access to the schools participating in this program. Smart was also able to introduced a website, www.smartschools.com, that has a goal of connecting this schools and offering a medium where resources for teachers could be pulled. The computer labs that are provided for by the program are also beneficial for the teachers in aid for their training programs.

3.2.2 Electronic Banking Services

The banking industry's setting has definitely changed with technology. In response to the growing demand for mobility in banking, the Philippine National Bank created the Electronic Banking Services Group (EBSG). The main goal of EBSG is to offer alternative means at a lower cost. It also aims at decreasing the load of the various branches of PNB. PNB's electronic banking services will allow depositors to benefit from the convenience of banking

anywhere anytime. Clients are able to access the Internet banking service of PNB through its website (www.pnb.com.ph). In addition, PNB bank accounts can be linked to their clients' cellular phones if one is a Globe Telecom subscriber. Advise – and – pay – anywhere short messaging service (SMS) alerts is also being offered by PNB that will inform beneficiaries of their remittances. Other Philippine banks are starting to offer similar services.

3.2.3 Go Philippines

A non – financial service of the Development Bank of the Philippines, Go Philippines was put up with the goal of endorsing and sustaining the establishment of an effective and cost efficient Road Roll – on/ Roll – off (RORO) Terminal System (RRTS) all over the country, by allowing customers to book and pay for any RORO route in real time. The service aims to provide the same assistance as a travel agent making bookings with a RORO Company.

3.2.4 Buy Philippines

In order to be more efficient and allow their business to become more globally competitive, Buy Philippines was designed. This e- Marketplace and Virtual Showroom was created for micro small and medium enterprises (mSMEs) to cost – effectively and efficiently conduct business over the internet. This showcases the best of Philippine – made products and services that Filipino entrepreneurs and business firms are able to conveniently and cost – effectively put up their own websites and virtual shops (e-Stores).

3.2.5 GS1 Traceability Standard

GS1 Philippines will be launching its Traceability Standards in the Philippines on July 10-11, 2006. GS1 Philippines is a non-profit organization that leads in the design and implementation of global standards for the supply chain (e.g. bar coding). This launching is initiated for the purpose of introducing the Electronic Product Code (EPC) technology in the Philippines. EPC is the standard identification to be used in order to provide a common set of specifications by which manufacturers and users may utilize a system that is interoperable, particularly for RFID technologies.

Specifically, this forum will launch the GS1 Traceability Standard, with the use of EPC. Traceability has become an integral part of doing business primarily because it has been used to validate the presence or absence of attributes important to consumers. It has also become one tool in fighting product counterfeiting and protecting brands. Most recently, traceability, particularly of food, has become a regulatory requirement for homeland security against terrorism. The forum aims to create awareness among local companies, industry leaders and key players in the supply chain of what RFID technology and the EPC system can do, and also to create awareness about EPC Global Association Philippines and its objectives.

3.2.6 Asia-Pacific Mobile Payments

A regional mobile payment service will be developed based on the Philippine's Globe's G-Cash solution. It will enable overseas Filipino workers (OFWs) in to open G-Cash wallets outside the Philippines for fund transfer to other G-Cash users, merchants and institutions in the Philippines, directly from the local SIMs of participating member operators. This means greater flexibility and convenience to OFWs in fund transfer and management. At present, G-Cash wallet accounts can only be set up and accessed with Globe-roaming SIMs.

The initiative is being undertaken by the Bridge Mobile Alliance, an Asia Pacific mobile alliance group composed of eight leading mobile operators in the region: Airtel (India), CSL (Hong Kong), Globe Telecom (Philippines), Maxis (Malaysia), SingTel Mobile (Singapore), SingTel Optus (Australia), Taiwan Mobile (Taiwan) and Telkomsel (Indonesia). It operates through a Singapore-incorporated joint venture company, Bridge Mobile Pte Ltd. Those initially taking part in this regional mobile payment service are CSL of Hong Kong, Maxis of Malaysia and Taiwan Mobile. The alliance is investing up to $40 million over the next three years to build and establish their shared regional mobile infrastructure, and to deliver a wider suite of regional mobile services.

3.2.7 LGU eBlotter

The Cebu city government is developing a computerized blotter system that will be completed before the Association of Southeast Asian Nations Summit in December. The city purchased a server and 18 computer units to be installed in all police stations in the city, and will next provide for the software and connection phases of the project, as well as additional hardware, if necessary. The project addresses delays in the submission of the daily journal and other police station certifications owing to the unavailability of computers.

Dubbed as the eBlotter, the information system will run in a wide area network connecting to the 18 computers, 11 of which will be in 11 police stations, four in the city police office, one in the traffic patrol group office, one in the mobile patrol group office, and one in the office of the chairman of the city council committee on police. With the eBlotter, all blotter records would be visible at the network server anytime of the day. The individual reports of each precinct would then be consolidated into a single report that can be accessed by the city police chief. The blotter records will be stored in a database and will "interface" with the digitized maps of the city to graphically view the reported crime incidents for analysis and strategic planning of the city police.

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SINGAPORE Progress Report

Singapore EDI Committee

2006 Country Progress Report：SINGAPORE

SECTION I - GENERAL CONDITION UPDATE

1.1 A Global City at Asia's Crossroad

International businesses, seeking to extend their reach into Asia and the rest of the world, often look to Singapore as a highly preferred base for a successful launch. And executives of multinational corporations readily accept appointments to live and work in the "Garden City".

In Singapore, the pace of commerce is driven by cutting-edge info-communications technology. With direct Internet connectivity to more than 20 countries - at more than 140Mbps to key regional markets such as China, Korea, Japan, Hong Kong, Australia, India and Taiwan, and 4Gbps to the United States - it's one of the most 'connected' city in the world.

Besides having a highly developed technology infrastructure, Singapore is a sophisticated city offering the region's best education, transportation, legal, and lifestyle infrastructure.

Home to a highly educated multilingual workforce, Singapore is renowned for being a business-friendly city, where English is the language of industry, education, and government.

A comfortable and clean city, with some of the most beautiful urban spaces in Asia, this Garden City is also a robust and entrepreneurial island-state, where opportunities abound for corporations and individuals alike.

1.2 A Pro-Business Environment

Singapore's world-class infrastructure, transparent business practices and liberalised telecom market have attracted more than 200 new telecom operators since the telecom and IT markets were liberalised in April 2000.

On top of that, a comprehensive system has been put in place to ensure an open and fair market that promotes both competition and co-operation among telecom players in Singapore.

Public and private sector training programmes sustain one of Asia's most infocomm-savvy workforces. And, some of the world's most flexible immigration laws ensure that businesses can recruit offshore talent when they need it.

Innovation is a way of life in Singapore, thanks to corporate R&D hubs such as Ericsson's Cyberlab, Kent Ridge Digital Labs, and Hewlett-Packard's Mobile e-Services Bazaar.

Singapore nurtures and protects intellectual property. The Intellectual Property Office of Singapore leads a government-wide effort to guard intellectual property rights, and the Writing Down Allowance for Approved Intellectual Properties gives favourable tax concessions for innovations created in Singapore.

Singapore is also a natural test bed for new ideas and products. Its multicultural, multilingual citizens are tech-savvy and internationally recognised as 'early adopters'. Internet, mobile telephone and PC penetration rates are among the highest in the world - half of Singapore's households have Internet access, three-quarters of its population carry mobile phones, and 61% of homes own at least a PC. And hand-held devices of all kinds are commonly used for business and leisure, making Singapore a 'living lab' for wireless technologies.

More than 6,000 multinational companies with regional HQs or operations in Singapore bear testimony to its excellent standing among international business leaders and talent. And no wonder: Few countries in the world can match the stability and integrity of Singapore's political and legal systems.

1.3 A World-Class Infrastructure

Located at the crossroads of Asia, Singapore has long been known as a major financial, Infocomm and transportation hub. More than 6000 MNCs have made Singapore their home in Asia. Many use it as a launch pad to expand into the region. They enjoy the benefits of being a part of a world-class business hub with excellent infrastructure, skilled & IT-savvy workforce, pro-business government policies and a stable environment.

In Singapore, we have more than 21 Tbps of total submarine cable capacity and international and regional telecoms connectivity to more than 100 countries. Complementing this is over 1.0 million square feet of data centre space offering world-class capabilities meeting stringent standards in security, availability and service level quality. It's everything you need for business continuity/disaster recovery, server/data centre consolidation and data storage services.

In an age where global telecommunications demands seamless connectivity and the ability to deliver services across borders, our telecom infrastructure and data centres can provide you the stability, reliability and capacity so critical to your business.

Singapore is well adapted for the Internet age too. Practically every home, school and office in Singapore has access to broadband. Security in electronic commerce is a high priority for the nation and wireless technologies are set to become a cornerstone of the island-state's future.

No matter whether you choose to live, work or do business in Singapore, you can be assured of a technological environment ready for the Infocomm millennia.

SECTION II – EDIFACT/eBXML/XML Based STANDARDS DEVELOPMENT

2.1 Universal Business Language (UBL) 2.0

Work on UBL 2.0 started in early 2005 after UBL 1.0 became an OASIS standard in November 2004. While UBL 1.0 comprises eight business documents for the basic procurement process, UBL 2.0 expands on UBL 1.0 to cover an extended procurement process and the transport process. Altogether, there are close to 30 business documents covered in UBL 2.0. It also contained an expanded library of ABIE and BIE for both the procurement and transport process.

CrimsonLogic chairs the UBL Transport SubCommittee, which produced 7 business documents for UBL 2.0.

Draft UBL 2.0 CD1 was released for first public review in January 2006. Close to 180 comments and feedback was received from the industry. The UBL TC is currently on the final stage of preparing the draft UBL 2.0 CD2 which is expected to be released for a second public review in July 2006. UBL 2.0 is expected to become an OASIS standard in October 2006.

UN/CEFACT has also approved the proposal for UBL to be recognized as appropriate first-generation XML documents for eBusiness and for future version of UBL beyond UBL 2.0 to be done within UN/CEFACT. For this, the UBL TC has already prepared an action plan for UBL's eventual inclusion into UN/CEFACT.

2.2 Information Exchange Technical Committee Seminar

As part of an on-going effort to promote the awareness of XML-based standards, the Information Exchange Technical Committee of the Information Technology Standards Committee organized a half-day seminar on 15 March 2005. It was attended by close to 100 attendees. Topics presented included (1) Empowering Organizational Change with an SOA, (2) ECO and International Standard: ebXML and UBL, (3) Impact of XBRL on Business Reporting and (4) xForms – Putting your form processing on steroids.

SECTION III – eBusiness/eCommerce Related PROJECT UPDATES

3.1 TradeXChange

A new trade and logistics platform, TradeXchange, is expected to go live in October 2007 and will support an estimated 8,000 users from the Singapore trading community. TradeXchange will be a neutral and secure platform that will enable exchange of information between shippers, freight forwarders, carriers and government agencies, to facilitate the flow of goods within, through and out of Singapore. This trade infrastructure will be able to provide seamless inter-connectivity among commercial and regulatory systems for our trade and logistics businesses.

Other than linkage with TradeNet, the electronic trade declaration system that companies use today, TradeXchange will be linked to four critical systems, namely, Cargo Community Network, Jurong Port Online, MPA's Marinet and PortNet, and other commercial systems.

According to Singapore Customs, the TradeNet system will also be further streamlined and simplified in the process, which will result in a significant reduction of trade declaration costs. It is estimated that there will be savings of $75 million for the entire industry over 10 years.

TradeXchange is being managed by an inter-agency team comprising Singapore Customs, Infocomm Development Authority of Singapore (IDA) and the Economic Development Board (EDB).

Owners of the four critical systems are also brought on board as partners. Once implemented, TradeXchange is expected to serve as a major booster to the competitiveness of our trade and logistics industry and put Singapore another step ahead as the logistic hub for the region.

A 10-year contract to develop and operate TradeXchange has been awarded to CrimsonLogic. Valued at $6.5 million, the platform is expected to generate about $200 million for CrimsonLogic over the 10-year period through subscriptions.

According to CrimsonLogic, existing platforms require members of Singapore's trading community to access a number of disparate systems individually and re-enter the same data in order to perform transactions such as submitting import/export permits, sea or air cargo manifests. The new platform, TradeXchange, will be designed to provide a single interface through which users can access these critical systems, enter the required data only once, and conveniently route it to the relevant parties.

Benefits of the system will include greater time savings, eliminate errors through data re-entry and smoothen information flows, resulting in overall efficiency and productivity gains.

In November 2005, Singapore's trade exceeded $599 billion for the first eleven months of the year.

After TradeNet, TradeXchange marks the next leap in the development of Singapore's trade facilitation framework. As part of the agreement, CrimsonLogic will invest about $12 million in the first two years of the project's development.

CrimsonLogic also has experience in managing and deploying trade declaration and commercial trade systems for countries such as Canada, Ghana, Mauritius, Saudi Arabia and the United States. As an added advantage, users of TradeXchange will be able to tap on CrimsonLogic's linkages to these overseas customs authorities for cross-border trading.

TradeXchange will be developed on the Java platform and based on a service-oriented architecture. It will also be aligned with global best practices and technical standards including W3C (World Wide Web Consortium), UN/CEFACT (United Nations Centre for Trade Facilitation and Electronic Business), OASIS (Organisation for the Advancement of Structured Information Standards), ebXML and RosettaNet.

3.2 The Convenience Of One Card For Electronic Payments

Singaporeans will soon get to enjoy the ease and convenience of using one card to make seamless electronic payments (e-payment) for their everyday needs - from retail purchases to public transport payments.

This is made possible as a result of a collaboration spearheaded by IDA working closely with the Land Transport Authority (LTA) and the industry. Gazetted and published by SPRING Singapore as SS 518 CEPAS, the other key organisations in this collaboration are the Cards & Personal Identification Technical Committee (CPTIC) under the Singapore IT Standards Committee (ITSC), Network for Electronic Transfers Singapore Pte Ltd (NETS), and EZ-Link Pte Ltd.

The launch of the new Singapore Standard for Contactless ePurse Application, SS 518 CEPAS is a significant milestone. Available for industry use, SS CEPAS is a world's first in creating a nationwide interoperable micro-payment platform that bridges multiple sectors - in particular the transit and retail e-payment space. This standard also levels the playing field for more card issuers such as banks and merchants to participate in this e-payment space.

As infocomm continues to transform all sectors of our economy, e-payments will play a greater role in enabling next generation applications and transactions. The launch of SS CEPAS signifies IDA and industry's commitment to leverage on the e-payment landscape to work towards the goal of reducing the number of paper based transactions and doubling the

annual value of transactions of card-based payments, e-money schemes and mobile payments - from S$24.6 billion to S$50 billion by 2010. This will result in market growth and create greater potential for exportable payment services to the region.

Significantly, CEPAS will allow interoperability of multi-purpose stored value card payment schemes such as the NETS CashCard and the ez-link card. When that happens, users can expect to enjoy the convenience of having a single card for making transit, motoring and retail payments instead of having multiple cards for different purposes. On the other hand, merchants and public service providers will also be able to deploy a single reader for their transaction processing, as opposed to having multiple readers.

Commenting on the significance of this development, Mr Chan Yeng Kit, CEO, IDA said, "CEPAS is one of the key pillars of the Next Generation e-Payment infrastructure outlined in iN2015, IDA's ten-year infocomm masterplan. It is a significant 'win-win-win' outcome for consumers, merchants, as well as card issuers. Consumers will be able to use one single card seamlessly for a wide range of payments. In addition, merchants avoid the cost of duplication involved in catering to multiple systems, and card issuers have access to a much larger nation-wide micro-payment space."

Setting the Standard

To ensure CEPAS' high roll-out and mass adoption, IDA has worked closely with CPITC and through SPRING Singapore gazetted the specifications as SS 518.

SPRING Singapore will encourage more enterprises, especially amongst the small and medium enterprises or SMEs, to use this standard.

This is important as Singapore needs to continually invest in electronic payment innovation and foster greater cooperation among the various payment platforms to open more solutions that can be used on a wider national scale. This will help boost market growth and create potential for exportable payment services to the region.

In addition, compared to existing smart cards, CEPAS has a beefed-up security feature to support multiple card issuers.

Mr Lin Yih, Chairman of CPITC said, "Singapore places great emphasis on high security for electronic payments. We have decided to embark on this new standard which is a culmination of atomicity, speed of operation, signed receipt, partial refund, auto-load and cumulative debit."

SPRING Singapore Chief Executive Mr Loh Khum Yean said, "As the national standards body, SPRING is privileged to publish and launch SS 518 CEPAS. This is a pioneering effort for e-Purse solutions, especially in the debit and credit areas because there currently are no

international standards in this area.

"SS 518 CEPAS will benefit both industry and end users - by ensuring a level playing field for card issuers, higher security and more choices of service providers for consumers," Mr Loh added.

Deployment of SS CEPAS compliant cards

For a start, NETS, a key player in the financial sector has plans to roll out CEPAS compliant Combi CashCard for mass market use later this year. Like all CashCards managed by NETS, the CEPAS compliant Combi-CashCard will be jointly issued by local banks such as DBS, OCBC and UOB. Ms Jocelyn Ang, General Manager for CashCard and Financial Transaction Processing, NETS, said, "CEPAS is a specification that enables NETS to offer unmatched convenience for Singaporeans, by allowing a single unified payment system for the public transport, retail and motoring.

"Today, we have the technology and the capability to deliver the next generation of payment solutions. We are enthusiastic and ready to offer a solution which enables users to make payments for road tolls under the ERP framework, pay for public transport or make retail purchases.

In a nutshell, NETS supports a common standard so that consumers will benefit from more payment choices. The contactless capability of the Combi-CashCard would also enable NETS to enter new sectors like Quick Service Merchant outlets where transaction speed is important."

Travelling With Ease

This micro payment platform has received strong support from the industry.

Mr Leong Kwok Weng, Chief Engineer (Systems), LTA said, "LTA is currently developing a new generation IU which would be able to accept other contact-less smartcards besides the existing CashCards, whether these are issued by NETS, EZ-Link or any other card managers. The fare system of the upcoming Circle Line, to be completed in 2010, will also incorporate this new standard, while existing transit card readers will be changed to accept multiple card types issued by multiple card issuers over time."

EZ-Link is working with LTA and its partner QB on the adoption of SS CEPAS onto its existing system to allow the ez-link card scheme to be integrated into other market sectors such as ERP tolls and car parking. A single standard would, as a result, also give ez-link cardholders access to an even wider range of unparalleled benefits and offerings in the retail sector in general.

EZ-Link's Senior Vice President (Business and Technology) Mr Nicholas Lee said, "EZ-Link and QB strongly support the Singapore government's initiative to introduce the CEPAS standard. With the convergence of the different card schemes onto a common platform, the biggest winner will be the consumer, who gains not only convenience but also choice.

We look forward to the successful nationwide implementation of the CEPAS platform as it will provide ez-link cardholders hassle-free and seamless access to a variety of payment and non-payment services across all e-payment facilities. The resulting increase in ez-link card usage by consumers for their everyday transportation, shopping and motoring needs would naturally encourage more merchants to accept e-payments as their preferred means of settlement."

With the launch of SS CEPAS, Singapore"s Infocomm industry sets another significant milestone to ensure that our nation stays at the forefront of innovation in the e-payment market space. Moving forward, IDA and its partners will continue to work together to provide consumers new and innovative e-payment solutions of the future.

3.3 Singapore iN2015 Masterplan Offers a Digital Future for Everyone

Singapore has launched a new ten-year infocomm masterplan that will propel the nation into 2015 and beyond, with a line-up of activities and goals that spell benefits for the people, businesses and the global community. The vision is to turn the country into an Intelligent Nation and Global City, powered by infocomm. The masterplan recommends the way forward for Singapore, into a future where infocomm will bring a sea change and become intrinsic in the way people live, learn, work and play.

Minister for Information, Communications and the Arts Dr Lee Boon Yang unveiled the plan this morning at the start of the week-long Infocomm and Media Business Exchange (imbX). Dr Lee said: "Innovation, integration and internationalisation will be the basis of our masterplan. The capacity to innovate and create new business models, solutions and services will enable Singapore to be more competitive in a globalised environment. Equally important is the ability to integrate resources and capabilities for economic progress and digital opportunities for all Singaporeans."

The iN2015 masterplan is developed in the past year with inputs from the People, Private and Public sectors. A steering committee chaired by IDA with representatives from the infocomm industry, sectors like education, healthcare, manufacturing & logistics, finance, tourism & retail and digital media, as well as the government, guided the development. The masterplan sets bold targets for 2015:

- Singapore to be No. 1 in the world in harnessing infocomm to add value to the economy and society
- Achieve a two-fold increase in value-added1 of the infocomm industry to S$26 billion
- See a three-fold increase in infocomm export revenue to S$60 billion
- Create 80,000 additional jobs2
- Have at least 90 per cent of homes using broadband
- Ensure 100 per cent computer ownership for all homes with school-going children

"The iN2015 Masterplan is not only about economic competitiveness. We will also be exploring ways to ensure that the elderly, less-privileged and people with disability can also enjoy connected and enriched lives for self-improvement and life-long learning. This is to bridge the digital divide and create opportunities for all," said Dr Lee.

To achieve the targets, the masterplan outlined four key strategies:

- To spearhead the transformation of key economic sectors, government and society through more sophisticated and innovative use of infocomm
- To establish an ultra-high speed, pervasive, intelligent and trusted infocomm infrastructure
- To develop a globally competitive infocomm industry
- To develop an infocomm-savvy workforce and globally competitive infocomm manpower

In harnessing infocomm technologies for the key economic sectors, some key recommendations include the use of personalised services to enhance healthcare, education, tourism and e-government; seamless delivery of financial services and supply-chain management.

The Next Generation National Infocomm Infrastructure will be put in place by 2012, capable of delivering broadband speeds up to 1 Gbps, and offer pervasive connectivity around the country. The infrastructure will also be IPv6 compliant and will enable an exciting host of new broadband-enabled services and applications, such as immersive learning experiences, telemedicine, high definition TV, immersive video conferencing and grid computing.

To develop a globally competitive infocomm industry, initiatives are being worked out to strengthen the domain and technology capabilities within the industry. Local infocomm enterprises will be nurtured for expansion and growth beyond the domestic markets, and infocomm solutions developed for export.

To support the growth of the economy and the infocomm industry, the infocomm competencies of the general workforce will be raised. Techno-strategists who have both the technical and business expertise will also be groomed to achieve business and organisational goals through the strategic and innovative use of infocomm. To build a pipeline of infocomm professionals, there will be initiatives to attract the best from schools to take up infocomm as a career.

"The government together with the industry will pursue many of the recommendations from the iN2015 Steering Committee for Singapore's vision to be an intelligent nation and global city by 2015," said Mr Chan Yeng Kit, Chief Executive Officer of IDA Singapore. "IDA sees the iN2015 masterplan as a living plan that will evolve as we look into its implementation and respond to socio-economic and technology changes over the next 10 years," he added.

THAILAND Progress Report

Ministry of Information and Communication Technology

2006 Country Progress Report : THAILAND

SECTION I - GENERAL CONDITION UPDATE

1.1 ICT Infrastructure Development

1.1.1 Telecommunication Infrastructure Development

1.1.1.1 Government Nervous System and e-Government Service

The Royal Thai Government gives one of the highest priorities to improving the service for citizens. Applications of the information and communication technologies enable government to effectively manage information in the “back offices” and efficiently deliver services through the “front offices”. This can be achieved by using the concept of Government Nervous System (GNS) and the electronic Government (e-Government) together.

Government Nervous System and e-government Service Project are under the Modernize Thailand Project, which focuses on development of Thailand into a modern, competitive, knowledge-based economy.

1.1.1.2 Increasing Telecommunication Network Capability via the IPSTAR Satellite Communication Network

IPSTAR is the fourth Thai nationality satellite under a Thai name, Thaicom-4. Invented and developed by Thais, the satellite was launched in August 2005 from the Guiana Space Center, South America’s Guru French Guiana Province. This patent-registered satellite is known as “The world largest broadband satellite”. It will cover countries through out the Asia-Pacific-Rim with 5 millions users expected in 2008.

The goal of this project is to increase Thailand’s telecommunication network capacity in order to support the demand for long distance public telephone services in remote areas as well as broadband Internet and multimedia services throughout the country. The target markets for this service include Universal Service Obligation (USO) areas, and telecommunications and multimedia service providers.

By using IP-based services, the use of this satellite allow reasonable price services to be distributed in inaccessible/remote areas. Services of this satellite are currently available.

1.1.1.3 Developing Communication Network Service for Suvarnabhumi International Airport

As the world largest single-terminal airport, the Suvarnabhumi International Airport is expected to be one of the hubs of Asia when completed.

A telecommunications network and services for the airport have been designed and developed to support government agencies, airlines, and other organizations in the new airport. The sophisticated yet powerful communication network has been designed to cope with 45 millions passengers per year expected to travel through this airport.

1.1.1.4 Implementing Communication Network Service for Underground Railway

Wireless communication services in the office, stations and tunnels of the underground railway system of the Mass Rapid Transit Authority of Thailand (MRTA) has been implemented to provide a modern data communications service to the first underground railway project in Thailand.

1.1.1.5 Greater Meakong Subregion (GMS) Project

The project has been organized and implemented cooperatively by the six member countries, which include Cambodia, Laos, Myanmar, Vietnam, Thailand, and Yunnan and Guangxi provinces of the People's Republic of China, aiming to put into place a regional high-capacity backbone network of at least 2.5 Gbps connecting GMS countries by laying over 4,900 km of newly constructed optical fiber cables. Upon completion of the project, it will allow users to have basic telecommunication services such as high-quality voice, data and Internet. Several applications such as e-government, e-commerce, e-learning, e-health shall also be provided. These services and applications not only enhance people's quality of life, but also further boost economic development, trade exchange and cultural communications among the six countries.

The construction of the GMS-ISN (Greater Meakong Subregion - Information Superhighway Network) infrastructure will be carried out in two phases. The first phase will focus on the end-to-end route and system by employing point-to-point network architecture with some parts of the network using SDH 2.5 Gbps systems. The second step will focus on ring network architecture by building three SDH 2.5 Gbps self-healing rings. The two phases of the project are expected to be ready for service by the end of 2008 and 2010, respectively.

1.1.1.6 Upgrading 470 MHz Mobile Phone Network

To enable the 470 MHz mobile phone network to support the school Internet Service, the 470 MHz mobile phone system has been upgraded to a CDMA 2000-1X system having 585 base stations nationwide with a capability to support 150,000 telephone numbers. The project involves upgrading the 470 MHz System to CDMA 2000-1X together with installing

equipments for providing fixed-wireless telephone and Internet services outside PSTN coverage.

1.1.1.7 1900 MHz Mobile Phone Project

3G service is being developed in Thailand. The technology supports various services and allowing multimedia services to connect with other communication devices. This results in ultimate free-style communications, such as receiving and making calls at the same time, video phone, video mail, video streaming, and interactive gaming.

1.1.1.8 Regional CDMA Network Upgrading Project

In 2005, the 800 MHz CDMA system in the regional areas had been upgraded from IS 95 to CDMA 2000 1x and CDMA 2000 1x EVDO to cover the remaining 51 provinces of Thailand. The installation of approximately 800 base stations was completed over the year 2005. It is expected that 1,600 base stations in total will be installed and ready for service by the end of 2006.

The CDMA 2000 1x and CDMA 2000 1x EVDO are capable of providing wireless data solutions with transmission speed of up to 2.4 Mbps.

Source : IDC Thailand, 2006

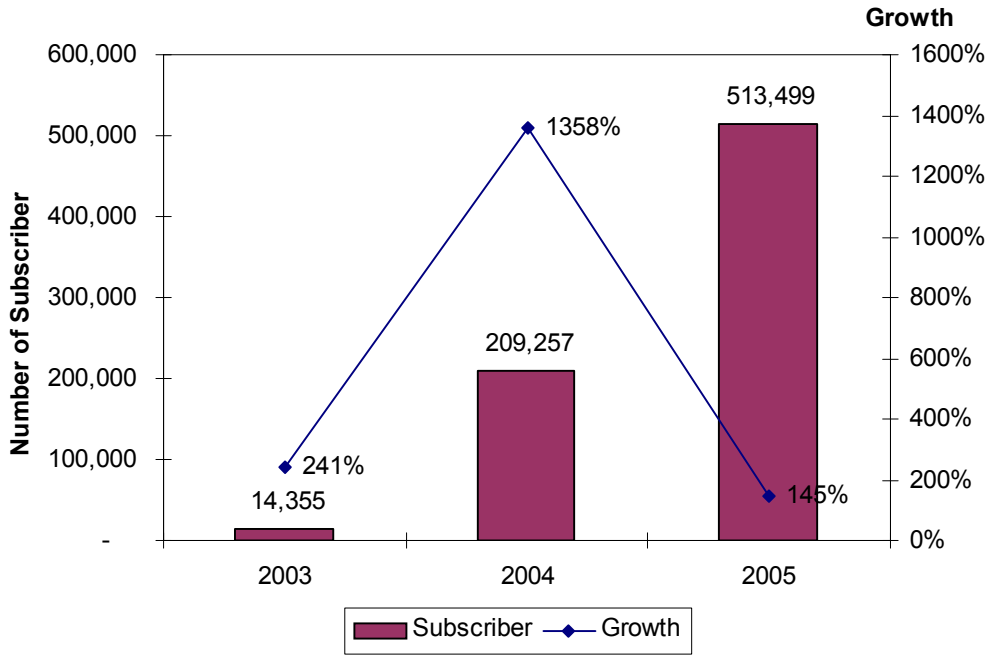


Figure 1 : Broadband Subscribers 2003- 2005

1.1.1.9 Broadband IP Network Expansion Project

The local broadband market in the 2005 was very dynamic due to stronger demand by residential users to migrate from dial-up to ADSL. High broadband service pricing used to be the major constraining issue for ADSL growth, but the situation changed after the Government issued their broadband directive and began introducing significantly cheaper packages to attract residential users. The ICT Ministry used TOT Corp., and CAT Telecom to commence this new low-cost broadband policy, and later market leader, TRUE, was forced to move to offer broadband subscriptions at only Baht 590 per month. In the end, this move helped cement the operator's position at the top of the market, with a subscriber share of over 70% in the first half of 2005.

The falling prices quoted for ADSL routers and modems also stimulated demand from general users, since these price decreases for required items lowered the barrier to entry for broadband in terms of overall investment costs.

While ADSL gained significantly in popularity in the market, demand for Dial-up services was sustained since ISPs also re-positioned Dial-up more competitively by using revised promotional campaigns.

From Figure 1, it shows the number of broadband subscribers from 2003 to 2005, During 2004, there is an initiative ideas from MICT to expand the number of broadband user to reach 1 million ports for the end of 2006. Besides, there was a decline in broadband price that the household could subscribe this service at home.

Company size	% Used of Internet Service	Average Employees Access Internet (person)
1 - 15 employees	48.2%	2.3
16 - 25 employees	62.3%	5
26 - 30 employees	69.1%	6.4
31 - 50 employees	74.0%	10.6
51 - 200 employees	82.6%	12.7
more than 200 employees	92.8%	50.3

Source : Report on the 2005 Survey on Information and Communication Technology, NSO

Table 1: Average Internet Service Usage and Employees Access Internet by Company Size in 2005

According to the survey of NSO as shown in Table 1, about 60% of household used more prepaid Internet access service. Besides, the purposes of access Internet mainly used for information retrieval and email. Besides, some businesses access the website to view the product catalog or using Internet to be a tool to support business operations.

This IP network expansion project will expand the core business network nationwide by 2007 in order to support the provision of bandwidth on demand service to wireless and wireline customers. Connection can be made through a system of convergence of technology and services to ensure that the network can support voice, data and multimedia services on the same network.

1.1.1.10 Next Generation Network (NGN) Project

The NGN focuses on providing both domestic and international telephone as well as data communications services as follows:

- Basic Telephony Service
- IP Centrex Service
- Phone to Phone and PC to Phone Service
- Click to Call Service
- Multimedia Conferencing Service
- External Blacklist & White list System
- Unified Communication System

The services are expected to be launched in the first quarter of 2007.

1.1.1.11 Upgrading Internet Protocol from IPv4 to IPv6

Thailand plans to upgrade current network infrastructure to support the new Internet Protocol in order to move towards the next generation of infrastructure. The entire nationwide network will be upgraded to support IPv6 by 2014. The next generation of Internet protocol is designed not only to extend the address space to cope with the growth in Internet use, but also to take advantage of new enhance features provided by IPv6.

1.1.2 Information Infrastructure Development

1.1.2.1 Government Data Integration/Interchange Standards

In order to provide efficient and effective e-Services to the citizens throughout the country, the government concentrates on the integration of several useful technologies to ensure that e-Services are fast, reliable and ubiquitous. To fulfill the goal, the followings are being implemented.

- **e-GMS (e-Government Meta Data Standard):** The government is now developing a meta standard for the data to be used by all government agencies.
- **Stat XML:** This is to define a standard and description as well as the information structure of all services provided by the government.
- **Digital Signature:** To make sure that all e-Services are secure and trustable, the government is now using digital signature technology as a tool to authenticate the person and activities. In the pilot project, government officers are encourages to use this technology for sending and receiving email. This make them realize and aware of the important of the technology.
- **Web Services:** All e-Services to be provided by the government shall be web-based services. This allows both government agencies to share information and citizens to have ubiquitous access to these e-Services.
- **GDI Center (Government Data Integration Center):** The government is now establishing Universal Description, Directory and Integration (UDDI) in order to register all government services. The implementation of UDDI allows government agencies could have convenient access to the services provided.
- **e-TGIF (e-Thai Government Interoperability Framework):** Ministry of ICT is now preparing Interoperability Framework as a standard for information linkage and interoperability so that all government agencies shall deploy the same standard to exchange information among agencies.
- **Smart Card:** To provide seamless e-Services, all citizens smart ID card as authenticated key to access all e-Services provided by the government.

1.1.2.2 National Information Center

National Statistic Office (NSO) is assigned to operate the national information center that has responsibility to manage information and integration in national and provincial level data from both government and private agencies support government in decide and direct the policy in short, medium and long term including support private agencies using the information for planning efficiently. The tasks also include data integration by concluding and analyzing data from different sources both government and private agencies, and data directory together with META data collection for addressing of actual data.

1.2 Liberalization, Policy and Regulation

1.2.1 National Telecommunications Policy

In 2005, the telecommunication government policy declared in the parliament was to advance sufficient telecommunications and services extensively with reasonable price. In addition, the services must be able to support economic growth, electronic commerce, knowledge transfer, and managing of the country.

1.2.2 Universal Service Obligations (USO)

With regard to providing telecommunication services in rural areas, the USO project aims, based on installation of advanced technologies, at data gathering on technical and social factors to enable the formulation of rules and provisions which will be applied to remote rural villages throughout Thailand within 2009. At the beginning, the use of telephone services will be free of charge for emergency cases. Other services will be at the affordable charges through public telephone in the future.

1.2.3 Consumer Protection

To promote policy on Consumer Protection, two important issues have recently been approved. The first issue is the procedures for receiving petition from consumers including dispute resolution regarding telecommunication services between consumers and licensees. The second relates to protection of consumers' rights regarding personal information and freedom to communicate by telecommunication means. Both issues were published in the Royal Gazette in April 2006.

1.2.4 Telecommunication Licensing

As of December 31, 2005, the NTC granted Internet license to altogether twenty three ISPs. In term of telecommunications licensing, NTC has granted six telecommunications operating licenses. This includes Type I and Type III to TOT Public Company Limited and CAT Telecom Public Company Limited, the incumbent telecommunications operators, under the Telecommunications Business Act.

1.2.5 International Internet Gateway and National Internet Exchange Licensing

The Internet infrastructure in Thailand consists of an International Internet Gateway (IIG), which distributes data between the domestic Internet network in Thailand and the international Internet network, and a National Internet Exchange (NIX), which facilitates Internet data exchange among the 19 domestic ISPs by connecting their networks to one another. Seven main nodes of major cities in six regions and distribution nodes of every province are connected to the IIG and NIX. The NTC is responsible for licensing a limited number of IIG and NIX providers.

1.2.6 Competition on Market-Base

The Telecommunications Master Plan 2005-2007 was announced and published in the Royal Gazette on August 2, 2005. The essence of Telecommunications Master Plan is to frame regulatory guidelines and telecommunication developments in several aspects: to

regulate telecommunication services under free and fair basis, to manage telecommunication resources, to provide universal services obligations and consumer protection, to promote industry development, to promote education, religion, culture, public benefits and participation, to promote non-commercial telecommunications services, and to provide disaster and emergency preparedness.

Besides, the NTC is drafting Competition Code which is aimed at regulating the market players and preventing cross-subsidizing business in the same group. The details of Competition Code cover clauses 13 and 14 of Section 51 of the Act on the Organization to Assign Radio-Frequency Spectrum and to Regulate Broadcasting and Telecommunication Services B.E. 2543 (2000) and Section 21 of Telecommunications Business Act B.E. 2544 (2001). The Competition Code is expected to be published in the Royal Gazette in the third quarter of the year 2006. The Code would apply only to NTC licensees.

1.2.7 APEC TEL Mutual Recognition Arrangement (MRA): Progress and Readiness

Thailand has made progress on preparatory work for the implementation of MRA. Several key preparations are as follows:

(a) Eight Telecommunication Technical Standards covering radio communication equipment are currently in force. It is expected that more technical standards will subsequently be prescribed by Telecommunication Standard Committee and its sub-committees, under the supervision of the Commission;
(b) Current regulations on conformity assessment procedures for telecommunication equipment are under review, to simplify the telecommunication equipment authorization and approval framework;
(c) Regulations on criteria and procedures for designation of local testing laboratories, and recognition of foreign testing laboratories, as CABs, are under finalization;
(d) Thailand should be able to implement Phase I of the APEC TEL MRA once these issues, regulations, and consultation have been finalized and put into practice;

Thailand welcomes dialogue with potential partner for information exchange with a view to entering into formal bilateral consultation based on the principle of mutual benefit and reciprocity.

1.2.8 Electronic Transactions Act B.E. 2544

The Electronic Transactions Act (ETA) of Thailand was enacted in December 2001 to recognize the legal validity of electronic records and electronic signatures. With the advance in communication technologies, electronic transactions employing such technologies are deemed to be vastly different from the traditional non-electronic counterparts which are

governed by existing laws. Hence, there is a clear need for a new set of laws of which the ETA is serving as the parental law. Pursuant to the ETA, Thailand recently initiated the subordinated laws under ETA, e.g. e-activities which will be excluded from ETA, e-Transactions in the Public Sector including the draft of information security guidelines based on ISO 17799. In addition, the Electronic Transactions Commission has been set up to lay down policies and prescribe rules to promote electronic transactions to monitor the business operation concerning electronic transactions.

1.2.9 National ICT Security Master Plan

Thailand by Ministry of Information and Communication Technology (MICT) is in a process of developing the National ICT Security Master Plan which follows 2 international standards, ISO 17799 and ISO 27001. The master plan will be used as a standard framework and guideline to implement and promote security environment and awareness to both government and business users.

1.2.10 E-Procurement Law

In 2006, the cabinet has agreed to enforce all government agencies and public enterprise to deploy the e-Procurement system. The law also includes updating of all related laws and regulations, if required. This regulation was enacted on February 1, 2006 to any procurement which has value more than 2 million Baht, except consultant, designing and construction supervision.

SECTION II – EDIFACT/eBXML/XML Based STANDARDS DEVELOPMENT

2.1 Thailand EDI Council (TEDIC)

Thailand EDI Council (TEDIC) is one of subcommittees under the National Information Technology Committee (NITC), with the following mandates.

- Establish policy and objectives on EDI for the country.
- Set up working groups to develop EDI, support EDI utilization, develop message standards, study and recommend EDI-related legal framework.
- Facilitate and monitor the operations of the working groups and other relevant agencies on EDI to follow the government policy and objectives.
- Manage the establishment of the national EDI service provider according to the government's direction.

- Represent Thailand in coordinating and consulting with other nations in international EDI development.
- Carry out other EDI-related activities.
- Carry on work, study results and development plan from the former subcommittee on EDI.

Based on the composition of the former subcommittee on EDI, TEDIC includes a number of new committee members representing strategic operations such as chairman of each affiliated working group, managing director of the national EDI service provider, and representatives from public agencies. Under the chairmanship of the Customs Director General, TEDIC composes of representatives from:

- Ministry of Commerce,
- Ministry of Transport and Communications,
- Board of Investment (BOI),
- Customs Department,
- Comptroller-General's Department,
- Revenue Department,
- Department of Foreign Trade,
- Department of Export Promotion (THAIPRO),
- Insurance Department,
- Department of Economic Affairs,
- Thai Airways International (THAI),
- Port Authority of Thailand (PAT),
- Telephone Organization of Thailand (TOT),
- Communications Authority of Thailand (CAT),
- Federation of Thai Industries (FTI),
- Federation of Thai Chamber of Commerce,
- Thai Banking Association,
- NECTEC (as secretariat)

Under TEDIC, there are three functional groups of people working together, namely Service & Support Group (SSG), Messages Development Group (MDG), and Legal Working Group (LWG). SSG is a working group responsible for promoting awareness and education both in public and user communities, as well as preparing all necessary standards and materials for them. Each of the four MDGs have been planned under TEDIC to look after its industrial sector's electronic messages development. These MDGs will work jointly with TISI (Thai Industrial Standard Institute) technical committee and MOTC (Ministry of Transport and Communications) EDI Subcommittee on Multi-modal Transport. In addition, the LWG has a mission to help matured users to cope with legal problems. That is to seek for interim solutions while related laws have to be reformed e.g. to prepare a standard agreement for trading partner, etc. The LWG is expected to work closely with the NITC subcommittee on IT Legal

Infrastructure.

2.2 National Standardized Data Set Development

Ministry of Information and Communication Technology (MICT) is in a process of developing the National Standardized Data Set supporting the Integrated Single-Window E-Logistics project, which will be commenced in 2006. This project will set XML Data Set Standards for exchanging information among government agencies. The project will last for 8 months starting from June 2006.

SECTION III – eBusiness/eCommerce Related PROJECT UPDATES

3.1 National Root/Bridge CA

Presently there have been more than 6 certified CA service providers in Thailand, but most of them can not be efficiently interoperated. In order for these certified service providers to link together and work as well as operate as if they were a single entity, a national root/bridge CA is being studied. The outcome of this project will allow faster and more secure services for all e-Services users, especially in financial-related electronic transactions.

3.2 Government Financial Management Information System (GFMIS)

Thai government developed and has exploited the Government Financial Management Information System (GFMIS) as a tool to increase the efficiency of government financial management. Moreover, the GFMIS provides the information to support the financial policy decision making and adjustment of national economy direction. GFMIS has been perfectly designed for Thai government finance and budget management to cope with national revenue, expenditure, loan, accounting system, procurement and budget monitoring efficiently and effectively. All government agencies have been using the GFMIS since 1st October 2004.

3.3 Citizen Identification Smart Card

History of Thailand citizen ID cards started more than half of a century ago. The evolution of the country's citizen ID cards started from using papers, then replaced by plastic, and plastic with magnetic tape, till the latest version which are produced by using smart card with IC chip. Each of the cards is equipped with a unique number. For each Thai citizen, this unchangeable number is assigned to him/her since he/she was born.

The smart cards have first distributed to the citizens on October 2005. The citizen ID smart card is not only used to identify people, but also is used as an authorization card for government e-Services.

3.4 e-Revenue

The revenue department developed the e-Revenue system to provide the online tax payment services as well as to provide useful tax information and printing service for instance. The e-Revenue provides convenient services to tax payer and reduces the compliance cost.

The national strategy framework in 2003 is the adjustment of country structure to increase the competitive ability and adjustment of modern management policy. The government emphasized on the developing the revenue department to become e-Revenue to increase the efficiency of management and to provide online services to tax payer.

3.5 e-Procurement System

The e-Procurement system includes e-Auction, e-Tendering and e-Catalogue. The project is separated into 2 phases. For the first phase, in 2004, the cabinet resolution stated that all government agencies should consider using the e-Auction for their procurement processes. Moreover, the procurement related regulations have been reformed, so that the regulation could be used widely, transparently, and to enable fair competition.

In 2006, for the second phase, the Ministry of Finance issues the electronic auction regulation which forces the biding process to function through electronic system within the specific time by using the sealed bid e-Auction.

3.6 The Rationale of Assets Capitalization

One of the main drivers of the Assets Capitalization policy is the recognition that a sizeable stock of assets, particularly those held by the lower income and the poverty-stricken group, cannot be capitalized. The combination of constraints ranging from the questionable legitimacy of claims, the risk factors, the higher costs for administering loan to large number of loan applicants have resulted in differential costs capital for the marginalized social and economic thereby placing them in even more disadvantaged positions. Moreover, the fact the such assets cannot br used to access to capital, amounts to ability to maximize the potential economic rent.

The launching of this policy is based on two basic assumptions. Firstly, while the poor do have assets, there are currently limited operational channels for the poor to access to capital. Secondly, creating access to capital can be a modality for unleashing the productive capacity of the poor thereby helping them to escape the poverty trap.

The intervention is to create that access to capital through formalizing lesser forms of property rights used by the marginalized economic group in the rural sector as well as their urban poor counterparts in the so-called informal sector economy. A precondition for bridging these small and informal economics to the capital markets will be the registration of those assets as a step towards creating values from them.

The organization set up for implementing this policy, according to the Regulation of the Office of the Prime Minister of April 22, 2003, comprises 2 Committees. The first is the Assets Capitalization Policy Committee chaired by the Prime Minister. The Secretary of the Prime Minister and the Director of the Assets Capitalization Bureau are Secretary and Assistant Secretary to the Committee. The second Committee, the Assets Capitalization Operation Committee, the Chairman is appointed by the Prime Minister with the Director of the Assets Capitalization Bureau (ACB) as Secretary. The Operation itself is executed by the Assets Capitalization Bureau, an office set up within the ffice of the Prime Minister on a temporary basis. Subsequently, a Royal Decree publicly announced on June 2, 2003 officially endorsed the status of the Assets Capitalization Bureau as a Public Organization.

The types of assets covered by the policy are land and property, leasing and hire-purchasing contracts, permission to utilize public lands and other licenses or permits, intellectual property, and machines.

3.7 Open Source Software

Thailand by Software Industry Promotion Agency (SIPA) is undertaking a number of projects designed to promote the use of open source. The Chantra project aims to introduce users to open source by providing a CD containing Open source applications for windows. Over 40,000 CDs have already been distributed. Almost all the included applications are also available on Linux: Chantra thus also allows users to migrate to Linux in two phases. In the first phase, it allows end users to migrate to open source applications while using Windows as the operating system. In the second phase, the end users migrate from Windows operating system to Linux.

Perhaps the most important application included in Chantra is the OpenOffice suite. SIPA has been supporting work on the Thai Localization of OpenOffice. A key goal is to ensure that the needed changes are integrated into the standard version of OpenOffice which provides all features needed for Thais.

SIPA is also creating a national mirror site which will provide a central site in Thailand for Downloading open source software. This will provide a more reliable and faster mechanism for users in Thailand to download open source software, and reduce the use of expensive international bandwidth.

For promoting public use of open source, SIPA has focused on open source content

management systems particularly in Mambo. As compared to the previous generation of Web Creation solutions based on proprietary HTML editors, Mambo provides many technical advantages allowing non-technical end-users to update the content of their Web sites directly. Mambo also benefits from a strong existing Thai user community and good Thai localization. Combined with the cost advantages inherent in open source, this makes a Mambo an attractive choice to a broad range of government units.

Lack of high-quality Thai fonts is one of the main barriers to the client-side use of the Linux and other open source operating systems in Thailand. SIPA has therefore devoted resources to producing high –quality open source fonts that support the Thai script. In particular, SIPA has sponsored the design of the Thai glyphs for the Bitstream Vera Family Fonts, which are probably the leading open source fonts for Western scripts. These Thai glyphs will be incorporated into a new release of Bitstream Vera.

VIET NAM Progress Report

E-Commerce Department
Ministry of Trade, Viet Nam

2006 Country Progress Report：VIET NAM

SECTION I - GENERAL CONDITION UPDATE

1.1. ICT Infrastructure

Internet infrastructure in Viet Nam has been improved over the last year. There are currently 6 licensed IXPs: VNPT, Viettel, FPT, SPT, ETC and Hanoi Telecom. Fifteen enterprises have been licensed to provide Internet access services, of which, seven companies have launched their business: VNPT, FPT, SPT, Netnam, Viettel, OCI and Hanoi Telecom.

According to VNNIC, by December 2005, the total number of Internet subscribers reached 2,891,0028, and the number of released IP numbers was 755,200, mostly dial-up subscribers. High-bandwidth Internet access service became available since 1997 in various forms, namely ISDN, leased line, VSAT, but the total number of customers was modest and most of them were enterprises, mainly because of pricey connecting fees. Since July 2003, when VNPT began to offer ADSL, the number of ADSL subscribers in Vietnam has reached over 200,000 by the end of 2005, four folder that of 2004. New types of Internet connection, like WiFi and GPRS, also started to grow.

The total number of Internet users reached 10.65 million, and density of Internet users was about 12.84%. Compared with 3.09 million Internet users by the end of 2004, the figure of 2005 had more than tripled.

The internet development situation of Vietnam

No.	Statistic Criteria	12/2003	12/2004	12/2005
1	The number of internet subscribers:	804.528	1.659.013	2.891.028
2	The number of internet users	3.098.007	6.345.049	10.657.102
3	Internet penetration	3,80%	7,69%	12,84%
4	Broadband internet connection to outside Vietnam (Mbps)	1.036	1.892	3.505
5	Internet transmittance via VNIX (Gbyte)	373	506.391	2.419.181
6	Internet domain .vn	5.478	9.037	14.345
7	IP address	152.064	454.912	755.200

According to the Institute of Policy and Strategy for Post and Telecommunication, to the end of 2005, the total amount of fixed telephones has reached 15,799 million, 5,480 million higher than that of 2004, achieving the penetration of 19,01 telephone /100 inhabitants. Mobile phone subscribers have been increasing sharply and account for 57% of total telephone lines.

1.2. Overview of e-commerce application

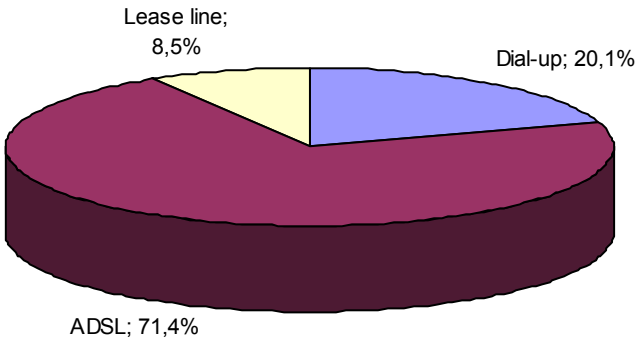
In 2005, Vietnam Ministry of Trade conducted its annual e-commerce survey that covered various types of enterprises nationwide. The questionnaire was designed so as to get diversified information on the situation of e-commerce and IT application in enterprises. The objects of the survey were selected by random sampling method and targeted enterprises of different scales and types operating in different fields. Analyses and statistics in this part of the report are based on information from 504 qualified questionnaires collected in the survey.

1.2.1 Situation of IT application in enterprises

Internet connection

89% of the surveyed enterprises have Internet connection, of which the proportion of broadband service subscriber is continuously increased during the year 2005 (80% in compare with 66% of 2004). Especially, the proportion of enterprises accessing internet via ADSL account to 70% of the total enterprises using internet, sharply increase than rate of 54% in 2004. It shows that the development of ADSL service continuously is one of the driving forces for e-commerce applications.

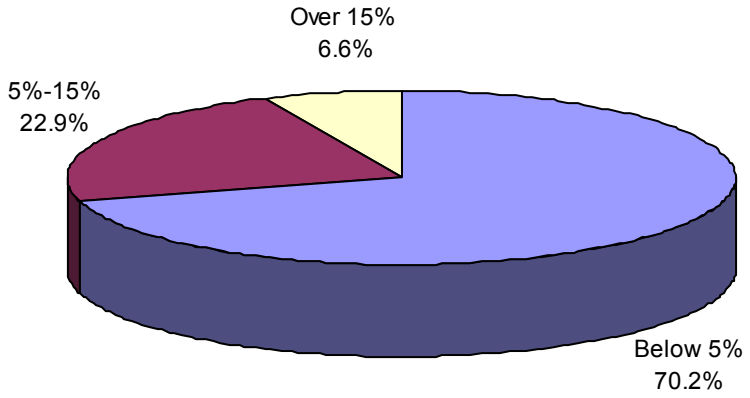
Internet connection modes of enterprises



IT investment

The result of general survey on IT application in enterprises shows the rate between investment for IT and total annual operating expenses is quite low. 70% of the surveyed enterprises spend bellow 5% of the total expenses for IT application, including telecommunication cost, software investment, system maintenance and training. Only 6% of the enterprises use above 15% of the total expenses for investment in IT, however, this number remains the same as it is in 2004. Interviews with the enterprises show that this trend will not be changed in next two years. Most of enterprises just use about 5% of its expenses for investment in application of IT.

Portion of IT expenses in enterprises' annual total spending



Structure of IT investment in surveyed enterprises has not been much improved as compared with the year 2003 and 2004. Investment for hardware still takes a dominant proportion in total investment, accounting to nearly 77% on average, versus 23% for software and 12.4% for training..

Enterprises' IT investment structure

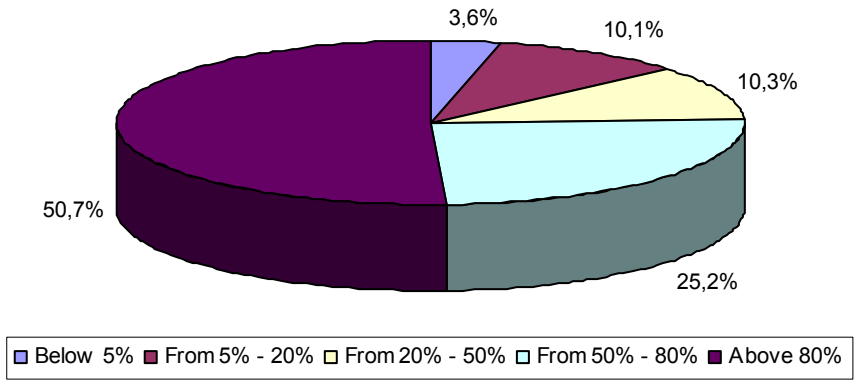
Investment in	Average rate	Minimum	Maximum
Hardware	76,8%	25%	100%
Software	22,9%	0%	65%
Training	12,4%	0%	20%

Human resource development for IT and e-commerce

Despite average rate of enterprises' investment for IT training in 2005 has not changed much (average rate of investment for training above total investment for IT in 2005 is 12.4%, just slightly increase from 12.3% in 2004) but enterprises' awareness on this issue have improved much. In 2004, nearly 30% of the enterprises did not apply any training program for their employees but in 2005, this rate fall to 20%.

Key success of human resource development for IT and e-commerce is not only training the employee of IT skill but also is chance or condition for them to practice and apply IT in their daily work. This criterion is partly reflects from rate of employee that usually use computer in working. Survey result shows that about 50% of the enterprises have above 80% employee usually using computer; this is a sharp increase from 32% of 2004. If we choose rate of 50% of total officials usually computer in working as milestone to evaluate enterprises' ability of technology equipments and accessing to IT, three fourth enterprises have reached this milestone.

Rate of employees using computer at work



Besides training activities, IT specialist is another criterion that reflects enterprises' awareness and ability of organizing, deploying and using IT applications. Survey results show that 37.4% of enterprises have IT specialists, higher than the 32.9% figure of year 2004 but remains quite low in correlation with 46.2% of enterprises that already built their website in 2005. This fact reveals that many enterprises do not take full advantage of e-commerce applications. Though having set up websites, they do not have the IT personnel needed to operate and manage those websites for the enterprise's business targets. This is a concern

that we should pay attention to, as development of IT human resource is yet to live up with the overall level of IT technology investment among enterprises.

1.2.2 E-commerce application in enterprises

Although quantity and quality of business websites is not a measure of enterprises' e-commerce application level, it is one of important criteria to evaluate the development of e-commerce, especially in circumstance that Vietnam enterprises are yet to get familiar with the world's advanced e-commerce practices. As direct electronic data interchange between strategic partners via connection systems in Vietnam is not well developed, websites will be the most effective and popular channel to promote company image, market products, and carry out e-commerce transactions in both B2B and B2C models. Hence, if an enterprise establish a website and well develop it in order to promote its business, such enterprise will have ability to deploy e-commerce to some extend.

Websites with e-commerce features

46.2% of 504 enterprises in our survey have websites, which is a considerable high rate as this survey was carried out nationwide. A majority (68.7%) of the enterprises having website are trade and service enterprises, offering a large variety of products and services.

Website proportion by product and service types

Products, services	Rate (%)
General products	3,9
Mechanical products	9,4
Electronic, telecommunication equipments	16,3
Consumer products	15,0
Handy-crafts	9,9
Agriculture, forest, sea stuffs	7,7
Textile, garment and shoes	7,7
Book and stationeries items	3,1
Construction materials	6,9
Other products	12,0
Tourism service	15,9
Law consultant service	3,4
Forwarding and transportation service	10,7
Other services	16,3

** One website may introduce some different kinds of products and services so the total*

rate is larger than 100%.

From the table, we find that products and service introduced on websites mainly are electronic and telecommunication appliances and consumer products. As electronic and telecommunication appliances and consumer products have highly standardized configurations so consumers could evaluate and compare products without physical check. This group of products will have advantage when accessing online promotion channel in next few years. In service field, tourism companies are leaders in applying e-commerce in business which complies with these companies' international market and highly integration nature of business. In this year, a business emerging as a service that using many applications in e-commerce is transportation and forwarding service with many functions websites interactive with customers.

87.6% of enterprises having websites said that they target business and organization customers when building their websites. Meanwhile only 67.5% enterprises target individual customers. Thus, B2B will be popular for many enterprises when deploying e-commerce professionally in the future.

Although the rate of enterprises having website is higher than last year, the websites' e-commerce functions is not better. Most websites only have the function of generally introducing enterprises' information, products and service with a poor interface and technology functions are just at beginning level. The survey result shows that 99.6% enterprises' website introduce enterprises' information, 93.1% introduce enterprises' products meanwhile only 32.8% websites have functions of supporting e-commerce such as functions of enquiring for products' information, sending demand, whereas, few of them accept online order. In such websites 82% of them belong to enterprises of service, which are mainly tourism, forwarding and transportation, advertisement and trading, etc.

Enterprises website's e-commerce functions

E-commerce functions	Website rate (%)
Introduce enterprise	99,6
Introduce products and services	93,1
Facilitate e-commerce transaction	32,8

E-commerce investment efficiency

Regarding to the rate of investment, the survey reveals that proportion of investment for e-commerce applications over total annual operation budget stayed at low level. More than 80% of the enterprises reserve less than 5% of operating budget for investment to deploy e-commerce applications, including purchasing of e-commerce software, maintenance website and human resource. Only 14% of enterprises use 5-15% of total budget for this investment and just 3.6% have considerable investment at rate of more than 15% of total budget.

Enterprises' investment vs. turnover generated by e-commerce

Proportion of e-commerce investment / turnover in annual gross investment / turnover	Investment in e-commerce (% of surveyed enterprises)	Turnover generated by e-commerce application (% of surveyed enterprises)
Bellow 5%	82,44	63,50
From 5% to 15%	13,97	29,00
Above 15%	3,59	7,50

Although turnover from electronic commerce activities remains low, it is regarded remarkable in comparison with investment rate. About 30% of enterprises estimate turnover generated by e-commerce investment range between 5% and 15%, and 7.5% are even more optimistic saying this proportion exceeds 15% of total annual turnover. Compared with year 2004, enterprises are more careful in embracing e-commerce applications but the actual effect of this investment is initially noticeable. Therefore, enterprises could have an optimistic view on this issue. 37.2% of surveyed enterprises forecast turnover from electronic commerce will fly up in next years. 61.5% of them said that turnover will remain the same and only 1.3% of enterprises think the turnover will decrease.

Rating of website's impacts on enterprises' business operation

Impacts	Average rating
Expand current customer communication channel	3,23
Build enterprise image	3,22
Draw new customer	2,90
Increase turnover	1,94
Increase profit and enterprise's operation productivity	1,90

** Rating on a 0-to-4 scale*

Besides the quantitative factor of return on investment, there are many qualitative factors to evaluate the impacts of e-commerce applications on the business productivity and operation. The survey shows that enterprises are already aware of websites' implications as an effective tool for promoting and expanding their markets. On the other hand, the two effects of "increase turnover" and "increase profits and enterprise's operating productivity" remain quite low in the perceived scale with average rating less than 2 (the highest rate is 4). It shows that monetary effect of electronic commerce stays unnoticeable.

Speaking on reasons why deploying electronic commerce has not brought effects as desired, enterprises marked "social awareness" as the biggest obstacle with average rating above 3.3 (against 4). "Payment system" closely followed with a 3.27 rating and "legislation and business practices" scored 3.11 high. Obstacle from the "informatics infrastructure" falls to bottom of the table in spite of getting rather high rating (2.8).

Enterprises' main obstacles in deploying electronic commerce

Obstacles	Average rating
Enterprises and social's low awareness of electronic commerce	3,32
Electronic payment system undeveloped	3,27
Legislation environment imperfect	3,11
Social environment and business practices incompatible	3,09
Incompetent human resource for informatics	2,95
Unsatisfying infra structure for informatics	2,81

** Rating on a 0-to-4 scale*

SECTION II – EDIFACT/ ebXML / XML Based STANDARDS DEVELOPMENT

Electronic Data Interchange plays a vital role to electronic commercial transactions of the business-to-business (B2B) style on a large scale. EDI is the most common method to exchange structured data among enterprises' computer systems. Using EDI, enterprises could reduce human errors, cut back information processing time in business transactions, and save more time and costs if compared to non-structured data exchange.

Up to 2004, EDI was almost of no use in Vietnam, few exceptions were a number of enterprises in the fields of banking, finance, and sea transportation which use EDI to do business with foreign partners and to conduct professional activities internally within their industries. The EDI application requires enterprises to be on a rather high level of computerization and to own an advanced business management process.

The state administrations for IT and e-commerce had realized the significance of the missing of a standard for electronic data exchange and had conducted some activities to boost up the application of EDI in Vietnam. On December 23, 2002, Minister of Science & Technology signed Decision No. 1035/QD-BKHCN to form the Taskforce on the development of EDI Standards (or the EDI Taskforce for short) comprising of many representatives from various industries and enterprises. In 2004, this Taskforce took numerous activities with an aim to enhance public awareness about EDI and to continue to research and establish a framework for EDI standards, such as:

- Regularly update EDI information at http://www.edivn.gov.vn, organize training classes and present about EDI at a number of conferences.
- Start to build up a dictionary for EDI terminologies in various sectors like administrative, commerce, banking and finance, customs and transportation.
- Organize and co-ordinate to conduct various tasks of the Project for Adaptation of French and English EDI standards into Vietnam (EURO-ASIAN EDI Adaptation - EA2), sponsored by EU and presided by EDIFRANCE.
- Organize a Vietnamese delegation to Europe to study about the English Framework policy for technologies and standards of electronic data exchange, to participate the Berlin Conference on application of document archiving standard of OpenOffice.org XML, and online registering service to bring public administrative services to the net via e-form technology.

The Team for IT Standards and Technicalities of the Directorate for Standards and Quality, of the Ministry of Science & Technology is promptly building the Vietnamese set of EDI

standards, based on the UN/EDIFACT set, and tentatively to be issued by the end of 2005.

The Ministry of Trade is working with a number of e-commerce organizations, like AFACT, in order to establish EDI standards for commercial transactions, to support for the strong development of e-commerce in Vietnam in the coming years.

The electronic visa system (ELVIS)

Since March 2004, the Ministry of Trade has run the ELVIS for textiles to be exported to the U.S. This system employs the UN/EDIFACT standard to exchange quota data with the U.S. Customs. The ELVIS helps make the management of U.S. textile quota more effective and avoid commercial frauds further than the traditional paper-based quota management method.

EDI applications among organizations

EDI is still at the very early stage of penetration into Vietnam for application among enterprises and organizations, as this model requires high level of computerization of the enterprises, which means professional investment in human resource, as well as advanced technology infrastructure. Besides, another important factor is the development of strategic partnership between enterprises that enables direct connection to automate regular transactions with each other. In the short term, enterprises that have strong financial potentiality and wide partner network will be leaders in deploying the B2Bi electronic commerce model. Once they are successful, they will be the motivation for development and spreading B2Bi applications in enterprise community in Vietnam.

Hai Phong Port Authority is one of the first organizations that have actively and effectively implemented EDI applications. This port has constructed the EDI program under international standards EDIFACT, which obtain container management data from its current MIS management information to make the electronic report for carriers, and shipping agents. After inspecting, this system achieves the international standard, and data are updated fast, punctually, accurately, and completely. Through EDI, carriers exploit and use all data about container management of the port, save cost, time, and human resources, and improve the efficiencies of their use, management, and executives.

SECTION III – Trade Facilitation / eBusiness eCommerce Related PROJECT UPDATES

3.1. E-payment

E-payment in Vietnam is in the period of piloting with assistance from the World Bank for the Project "Modernization of banks and payment systems" commencing from May, 1994, started to implement since 1997 and fulfilled the first period by the end of 2004. In 2005, this Project continued to roll-out at some commercial banks. The initial pilots created the basis for the State Bank to issue some document recognizing e-documents and e-signature applying for some internal payment profession of banking system. However, this group of documents has not been expanded to the application outside the banking system. Prior to 2004, the State Bank issued some documents related to e-payment. In 2004, there were no newly-issued documents on this field.

Necessary conditions for e-payment system development:

- Modern banking payment system. Most of transactions are conducted through electronic tools.
- Well-developed social and technical infrastructures. Most of enterprises have linked to the Internet and banking systems.
- Legal e-payment foundations are designed comprehensively. Legal value of e-payment is recognized and there must have correlative financial accounting rules.
- E-payment sercurity infrastructure is secured.
- Purchasing habits of consumers and business practices in societies are well-developed enough.

Of the five conditions, Vietnam partly lives up to the first condition by establishing modern technological infrastructure for interbanking payment and internal transactions in big commercial banks as the fist step. That is the outcome of the project banking and payment modernization financed by the World Bank, and it came in to practice in 1998. The most element of the project was the interbank e-payment sub-project under the control of State Bank and it has come into operation since May 2002. Besides, six internal payment modernization and banking services expanded sub-projects of six big commercial banks1 were also completed and operated at the end of 2003.

[1] Six banks include: Industrial Commercial Bank of Vietnam, Vietnam Foreign Trade Bank, Vietnam Agriculture and Rural Development Bank, Vietnam Investment and Development Bank, Vietnam Import-Export Bank and Vietnam Maritime Bank.

The interbank electronic payment system – the biggest sub-project under the State Bank – was considered the crucial foundation for modern banking services, which created the much-needed infrastructure for e-commerce implementation in Vietnam. Interbank e-payment system has automatic interfaces with different systems such as SWIFT international payment system, ATM circuit switching systems and securities clearing systems. That was the online payment system up to international standard. It takes about 10 seconds to conduct a payment order.

According to the Department of Banking Information Technology of Vietnam State Bank, its inter-bank electronic payment system which has operated since May 2002, has average of 12,000 -13,000 transactions per day with the worth of VND 8,000 billion. This system has been linked with 232 credit institutions and 50 commercial banks.

However, according to the assessment of businesses and consumers, payment is a big obstacle for e-commerce transactions between the businesses and their customers and among the customers. This payment method has not been obviously operated well in Vietnam, although the technology and legislation infrastructures have been improved significantly to back the development of the electronic payment.

The main reason is that the payment gateway has not been constructed yet to link commercial banks together and with the international settlement institutions. Many businesses along with banks are interested in building this gate. Basing on the current technology, they say that this system can be constructed with the permission of the State Bank. Meanwhile, the State Bank just considers this matter after the issuance of Decree on electronic transactions in banking industry, which is estimated to be issued in the first half of 2006.

Companies who sell their products online have not opened their merchant accounts at Vietnamese commercial banks. As a result, both Vietnamese and international customers have not used their credit cards buy products from Vietnamese websites.

In the context that the credits have not been used widely, and not been accepted for online payments, such companies have considered other methods to diversify their payment to make convenient for their customers. The popular payment methods of the websites are account transfer, using ATM transfer, sending money through the telecom posts, or using international money transfer system. Some companies have issued pro forma cards (which are the cards that the customers pay their money before buying) as an alternative solution. Using this way, companies issue the card with the fixed par value of VND 50.000, 100.000, and 200.000 which are similar with the pro forma cards used in Internet or cell phone services. The customers use these cards to pay their products from online websites by accessing their ID number and the passwords. Remaining amount will be used to pay for next ones.

3.2. E-customs formalities, e-taxation

General Department of Tax has made plan for online registration and tax declaration; it would be applied when the website of General Department came into effect at www.gdt.gov.vn. This activity may help to enhance the quality and efficiency of enterprise support activities of General Department of Tax, and keep the close relationship between tax units and tax payers. These online services are scheduled to come in to operation in 2006. After that, online tax payment could be considered and applied with the cooperation of all organizations and individuals.

Customs was one of the first sectors applied IT in providing public services, specifically e-customs procedures. After the research and trial application in a long time, General Department of Customs had been prepared for the widespread deploy of e-customs since the beginning of 2005. On 20th June, 2005, Prime Minister signed the Decision No. 19/2005/QD-TTg entitling General Department of Customs to take a pilot application of e-customs in Ho Chi Minh City and Hai Phong. On 19th July, 2005, Finance Minister issued the Decision No. 50/2005/QD-TBC which prescribed the e-customs procedures. Ho Chi Minh Customs Department officially applied e-customs clearance procedures on 4th October, 2005.

The procedure of e-customs application are described as following:

- Phase 1 (2005): applying e-customs at Ho Chi Minh Department of Customs and Hai Phong Department of Customs; selecting the enterprises who meet the requirements such as voluntary in using e-customs procedures, financial transparency, committing customs regulations once in the latest year, etc.
- Phase 2 (1/1/2006 – 31/8/2006): Widen the scope of application to 6 Department of Customs where the volume of imported goods is big such as Dong Nai, Binh Duong, Vung Tau, Da Nang, Hoi An, Quang Ninh.
- Phase 3 (1/9/2006 – 28/2/2007): Widen the scope of application to some customs units, and enterprises, and types of imported and exported goods

At the beginning, e-customs procedures were thought to be a favorable condition for developing e-commerce and applying IT in import-export sector. However, there obviously were several difficulties in applying e-customs, they were the limitations of software in handling potential problems, lack of back-up system which may cause the disruption in operation in case power was cut, computers at the border gates were not connected to the internet, low capacity transmission lines, lack of regulations on e-customs declaration mandate.

In order to realize the efficiency of e-customs, the customs sector needs to cooperate with other sectors like police, tax, market control, transportation. The application of coding to

imported goods and tax calculation would facilitate the procedures of e-customs for both customs offices and enterprises.

3.3. E-licensing formalities for trade and investment activities

Licensing formalities for business activities include: (1) investment licensing formalities; (2) business registration; (3) licensing formalities for business, certificate for profession practicing, certificate for business conditions.

The Law on Foreign Investment in Vietnam in 1996 (amended and changed in 2000), the Law on encouragement of domestic investment in 1994 (amended and changed in 1998) and direction documents for implementation are legal foundation for carrying out investment licensing formalities (the traditional method), presided by the Ministry of Planning and Investment. Till the end of 2004, there was no official legal document recognizing the form of electronic investment licensing. In reality, there are only some cities and provinces piloting license grant through website (Chu Lai Open Economic Zone of Quang Nam province, Department of Investment and Planning, Ho Chi Minh city) as a tool to reduce negative issues and to simplify administrative formalities or to encourage investors.

3.4. E-procurement

Decree numbered 66/2003/ND-CP dated 13th June, 2003 of Government prescribed that the tender information must be posted on the State Information system of Tender that includes Information Magazine, website online information of Tender. Nevertheless, there has been published the Bulletin “Tender Information” so far by Ministry of Planning and Investment since 14th December, 2004. In order to make good shortcomings of tendering activities, the eighth National Assembly, the 8th Session approved Tender Law on 29th November, 2005. The law would come into effect from 1st April, 2006. Beside maintaining the online website of tender as a key tool of communication, a noticeable issue of Tender Law which drawn much attention was the permission of online bidding. Tender Law was the essential legal basis in building information system of gathering and modern bidding.

On 5th December, 2005, Ministry of Planning and Investment opened an online tender website under the name http://dauthau.mpi.gov.vn. This website provided the information about bidding, including bidding plans, announcements about short-list, bidding invitations, lists of bidders, bidding results, local bidders, overseas bidders, individual bidders, the cases of bidding violation, legal documents. In addition, other information about supporting functions such as report printed output, search, and questions and answers.

Basing on the foundation of this website, in 2006, the website administrator (such as Bidding control Department, Ministry of Planning and Investment) planned to set up online bidding system with the hope that it could help create fair, transparent, and convenient bidding mechanism for the bidders, and enhance the efficiency of biding and bidding control. To

realize these activities, the website needed further functions like electronic certification.

3.5. National E-commerce Portal (ECVN)

Vietnam E-commerce Portal (ECVN) was established according to the Decision No. 266/2003/QD-TTg signed by Prime Minister dated 17th December, 2003 approving the Project of developing export market in 2004-2005 and document numbered 1587/CP-KTTH of supplementing National Trade Promotion. On 5th December, 2005, ECVN was officially opened at the website www.ecvn.gov.vn on the occasion of Exhibition of 60 years of Vietnam socio-economic achievements.

The objective of ECVN was to help enterprises quickly familiarize themselves with e-commerce and using e-commerce, from that strengthen corporate competitiveness to meet the demands of widespread globalization process. In the first phase, ECVN focused on the sectors with high volume of transactions and conformable to e-commerce say farming produce, seafood, garment and textile, foot wears, electronics, handicrafts, pottery, wooden furniture, and etc. In the later phases, ECVN would act the supplier of online public services like issuing license, original certificate declaration.

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Meeting History

Meeting History

	Date	Place	Remark
1st	1990. Nov. 5~6	Tokyo, Japan	JS/EB Plenary
2nd	1991. Jun. 25~26	Singapore	JKS/EB Plenary & EDICOM '91
3rd	1991. Oct. 28~29	Tokyo, Japan	AS/EB Plenary
4th	1992. Jun. 11~12	Tokyo, Japan	AS/EB Plenary & EDICOM '92
5th	1992. Oct. 29~30	Seoul, Korea	AS/EB Plenary
6th	1993. May. 20~21	Beijing, China	AS/EB Plenary
7th	1993. Oct. 25~27	Seoul, Korea	AS/EB Plenary & EDICOM '93
8th	1994. Jun. 6~8	Kuala Lumpur, Malaysia	AS/EB Plenary
9th	1994. Nov. 28~30	Chinese Taipei	AS/EB Plenary & EDICOM '94
10th	1995. Jun. 5~7	Bangkok, Thailand	AS/EB Plenary
11th	1995. Nov. 1~3	Kuala Lumpur, Malaysia	AS/EB Plenary & EDICOM '95
12th	1996. Jun. 4~7	Manila, Philippines	AS/EB Plenary
13th	1996. Oct. 28~30	New Delhi, India	AS/EB Plenary & EDICOM '96
14th	1997. Apr. 30~May. 2	Singapore	AS/EB Plenary & EDICOM '97

	Date	Place	Remark
15th	1997. Nov. 2~6	Colombo, Sri Lanka	AS/EB Plenary
16th	1998. Jul. 4~10	Tehran, Iran	AS/EB Plenary
Management Team Meeting	1999. Apr. 22~23	Singapore	
17th	1999. Sep. 5~10	Seoul, Korea	AS/EB → AFACT Plenary & EDICOM '99
18th	2000. Sep. 11~15	Chinese Taipei	AFACT Plenary & EDICOM '00
19th	2001. Oct. 1~3	Jakarta, Indonesia	AFACT Plenary & EDICOM '01
20th	2002. Oct. 28~Nov. 1	Kuala Lumpur, Malaysia	AFACT Plenary & EDICOM '02
21st	2004. Jan. 11~14	Karachi, Pakistan	AFACT Plenary & EDICOM '03
22nd	2004. Sep. 19~22	Singapore	AFACT Plenary & EDICOM '04
23rd	2005.Oct. 24~27	Hanoi, Viet Nam	AFACT Plenary & EDICOM '05
24th	2006. Aug. 7~11	Karachi, Pakistan	AFACT Plenary & EDICOM '06

2006 AFACT Year Book

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