

AFACT



AFACT

2011 Year Book

**Asia Pacific Council for Trade
Facilitation and Electronic
Business**

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PREFACE: I

AFACT Chairman, Dr. Jyh Sheng Ke



It is a great honor for me to welcome all AFACT members to Kaohsiung and Taipei for the 29th AFACT meetings and also to be the Host of AFACT 2011, eASIA Awards and EDICOM 2011.

AFACT has been actively promoting trade facilitation in the Asia Pacific region. Last year, AFACT reorganized the structure into three Executive Committees and developed two working groups. These new working groups focus on specific areas such as eCOO and TT&L (Travel, Tourism and Leisure) in order to lead the future direction of AFACT, increase the contribution we make to the UN, enhance our capacity and broaden our role and work scope. Participating in the Mid-term StC meetings in Kaohsiung are exceptional number of delegates, each here to discuss continued collaboration and to achieve new goals, as well as provide a platform for strengthening trade facilitation and electronic business activities between member countries/economies. The diversity of our community gives us strength to achieve solutions from various perspectives. More than ever, Asian nations must work together towards sustainable development. This is exactly the goal AFACT strives for.

We look forward to working with likeminded members of the AFACT community to research and promote the development of a single window that enables us to grasp new economic opportunities. This is the first time that we have added reports from the three Executive Committees, two working groups and the eASIA Awards-awarded projects into our yearbook. This yearbook is an important work featuring AFACT's achievements over the last year. I would like to express my gratitude to all who have made this possible and, in particular, the AFACT Secretariat for their invaluable contributions and continued support of AFACT.

Jyh-Sheng Ke, PhD

Chinese Taipei

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PREFACE: II

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



I am pleased to welcome all the participants of 29th Annual meeting of AFACT 2011 at Chinese Taipei, who has been in the forefront of AFACT activities for quite some time. Chinese Taipei has the distinction of facilitating many innovations for AFACT including the eASIA Awards, which is taking place this year along with Plenary.



AFACT is positioned to play a very important role in the region to promote trade integrating electronic mode of business using international standards and best practices especially those developed and promoted by United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT). A majority of active members of AFACT have always strived for the joint projects/activities beneficial for all the member countries/economies and all of us have to look forward to develop the ways and means to help each other in collaborative e-commerce and increased adaptability and flexibility. This would be possible once AFACT develops effective interface with other regional/international agencies/associations working in the similar areas and we would be having a mechanism to pool resources for the member countries/economies. This needs to be taken up as a priority work item.

I hope that the newly constituted three committees would play an active role in the transformation of AFACT from a policy body to a supporting body. This could be achieved by activating the working groups on project mode.

I wish AFACT for successful and meaningful meetings with clear deliverables.

October 5, 2011

New Delhi, India

(T.A.Khan)

UN/CEFACT Vice Chair & Deputy Director
General, NIC

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PREFACE: III

UN/CEFACT Rapporteur for Asia, Dr. Ajin Jirachiefpattana



The current trend in e-Business is continuously and rapidly driven along with the unprecedented growth of global economy. This is giving rise to many challenges in creating and developing information and communication technology infrastructure and ubiquitous networks that play a vital role in socio-economic development and could better facilitate trade everywhere in the developing world especially in the Asia Pacific region.

AFACT is well aware of the importance of actively promoting trade facilitation in the Asia Pacific economies since its establishment for more than twenty years. Developing methods to facilitate transactions and improving the competitiveness of AFACT members through ICT tools and e-Business are the major activities of AFACT that are recommended and promoted by UN/CEFACT to stimulate and improve the business and trade ability, and also to exchange products and services within the region. Being trusted and elected as the UN/CEFACT Rapporteur for Asia, I would like to extend my grateful thanks and appreciation to AFACT members, AFACT Secretariat, and other well wishers for their continuous support. I will do my best to promote the sustainable development on ICT and e-Business to increase new economic opportunities in this region. I am convinced that AFACT community will be full of distinguished achievements and reach new heights.

In closing, I hope that the 2011 AFACT Yearbook will continue to serve as a valuable reference to members of AFACT, leading policy makers, top business executives, common users and others interested in trade facilitation and electronic business.

Ajin Jirachiefpattana

UN/CEFACT Rapporteur for Asia

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PREFACE: IV

General Secretary of AFACT, Dr. Mahmood Zargar



The secretariat is a principal organ in AFACT and in the last two years is headed by the Islamic Republic of Iran and is assisted by efficient and competent staff. Its duties include carrying out tasks as directed by the chair, StC and the Plenary of AFACT, gathering and coordination of information and comments from and among member countries regarding various initiatives and current activities and to help organizing related meetings and conferences.

Islamic Republic of Iran as the permanent Secretariat has tried its best during the two years of its activity. The following are some of the major actions taken by the secretariat in the year 2010:

1. Establishing a website (<http://afact-committees.org>) for AFACT committees through which they can have their contacts separate from the AFACT master website.
2. Updating the AFACT website (www.afact.org) in a way so that it can serve as a reference site in the field of trade facilitation. To achieve this goal the following items were added to the website.
 - a. International and important links of Training programs in the field of trade facilitation like UNNExT. Links of responsible organization (Focal Points) for trade facilitation in each member country.
 - b. Introducing Active AFACT Projects.
 - c. Addressing the related projects in other communities.
 - d. Addressing the related workshops, seminars,...
 - e. Link exchange with other related sites
3. Organizing AFACT conference call meetings – Except mid-term and plenary meeting in Taiwan in the current year which AFACT members had their meeting face to face, all other AFACT meetings were held through online conference calls and by using GOTOMEETING facility which was prepared by AFACT permanent Secretariat.
4. AFACT registration as NGO – The secretariat with the help of the secretariat of 2011 host country started the process of registration of AFACT as an international NGO in the ECOSOC with the target of attracting international support and also possibility of attending international events as a legal entity.
5. AFACT year book – The secretariat collected the country progress reports from AFACT members and prepared the AFACT year book 2011.
6. AFACT Brochure – The secretariat prepared the second AFACT brochure which defines the AFACT in brief. Permanent secretariat prepares a specific brochure for each year.

(Mahmood Zargar)

General Secretary of AFACT

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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 countries 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 19 members from Afghanistan, Australia, Cambodia, China, Chinese Taipei, India, Indonesia, Iran, Japan, Korea, Malaysia, Mongolia, Pakistan, Philippines, Saudi Arabia, Singapore, Sri Lanka, Thailand, and Vietnam. 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. PAA (Pan-Asian eCommerce Alliance) is the associate members of AFACT, which is dedicated to promote cooperation in implementing trade facilitation and eCommerce in this region.

There are three working Committees acting under AFACT, which has its own mission and programs of work. The committees are, Business Domain Committee (BDC), Community Support Committee (CSC) and Technology and Methodology Committee (TMC)

The common mission of those working committee's are:

1. Developing methods to facilitate trade transactions, fit to the member economies and in conformity with the standards and the recommendation developed by UN/CEFACT;
2. Promoting both the use of these methods, and associated best practices, through channels such as government, industry and service associations;
3. Coordinating its work with UN/CEFACT and other relevant international, regional and non-governmental organizations; and
4. 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 and its adjacent countries and economies (hereinafter collectively referred to as "Region") policies and activities, especially those promoted by United Nations Center for Trade Facilitation and Electronic Business (hereinafter referred to as "UN/CEFACT"), dedicates to stimulate, improve and promote the ability of business, trade and administrative organizations, to exchange products and relevant services effectively through the simplification and harmonization of processes, procedures and information flows 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:

- (a) Disseminating the standards and the recommendations published by UN/CEFACT;
- (b) Analyzing and understanding the key elements of international transactions and working for the elimination of constraints;
- (c) Developing methods in conformity with those developed by UN/CEFACT to facilitate transactions, including the relevant use of information and communication technologies (ICT) such as but not limited to UN/EDIFACT and ebXML, securing coherence in the development of standards and recommendations by cooperating with other interested parties, including international, intergovernmental and non-governmental organizations;
- (d) Promoting both the use of these methods, and associated best practices, through channels such as government, industry and service associations;
- (e) Coordinating its work with UN/CEFACT and other relevant international, regional and non-governmental organizations; and
- (f) Enhancing the cooperation among the AFACT members and promoting the objectives of the mission statement in the Region.



Article 4: Structure

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

Article 5: Membership

Membership shall be divided into two categories and the qualifications for membership in each category are provided hereunder. The members of each category are shown in Appendix 1 hereto:

Member - The countries and economies in the Region by a public or private corporation, boards, commissions, organizations, associations and other bodies (whether governmental, public or private, and whether incorporated or unincorporated) undertaking to promote and develop Trade Facilitation and Electronic Business (hereinafter collectively referred to as “Body”) provided that a Body is eligible to establish a focal point as provided by the Article 10 hereunder.

Agencies of the United Nations can also be members.

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

Anybody in a 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 Chairperson 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 Chairperson 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 Chairperson 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 in writing.

Notwithstanding of the foregoing, for dissolution of AFACT, the adoption of the Bylaws or amendment thereof, 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 Chairperson or a fellow AFACT member.

The Plenary shall meet at least once a year.

Article 7: Officers, Hosting Member and Secretariats

7.1 Officers of AFACT

The Officers of AFACT shall be the Chairperson, two Vice-Chairpersons and the Secretary (herein after referred to as “AFACT Secretariat”.) The term of office for the Chairperson and two Vice Chairpersons shall be one year. The term of office for AFACT Secretariat shall be provided the Appendix 3 to this Bylaws.

7.2 Hosting Member

Annually AFACT shall identify a member to host the organization (herein after referred to as “Hosting Member”).

The Hosting Member shall nominate the Chairperson, with one Vice-Chairperson being nominated by the next hosting member (herein after referred to as “Chairperson Elect”) and the immediate former Chairperson acting as the other.

At the start of each Plenary, the identification of next Hosting Member and the Chairperson Elect shall be approved.

The Hosting Member shall nominate a person who shall be the hosting secretary of AFACT (hereinafter referred to as “the Hosting Secretary”).

Their term shall start immediately after the previous Plenary meeting is adjourned. In order to ensure a smooth hand-over between the two Hosting Secretaries, a Joint Hosting Secretary shall exist for an agreed period, after the previous Plenary meeting.

7.3 AFACT Secretariat

The AFACT Secretariat shall be nominated by the Steering Committee and ratified by the Plenary as permanent entity based on the Terms of Reference described in the Appendix 3 to this Bylaws.

When AFACT Secretariat finds an exceptional difficulty of a Hosting Member to perform a host, AFACT Secretariat should call a Steering Committee Meetings to decide alternative member to host the organization according to the provisions provided by the Article 8 herein.



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:

- Chairperson (of AFACT)
- Two Vice-Chairpersons (of AFACT)
- UN/CEFACT Rapporteur for Asia (as an Advisor),
- Any other officer of UN/CEFACT (as an Advisor), provided that he/she was elected by UN/CEFACT according to the recommendation by AFACT
- Chairpersons of the Executive Committees provided by the Article 9 herein
- 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

In case the net total number of the Steering Committee members becomes less than ten (10) owing to overlapping of the role of the Steering Committee members, Plenary may elect additional member from other AFACT member countries/economies

The Steering Committee is chaired by the Chairperson of AFACT.

The Hosting Secretary shall be present in all Steering Committee meetings.

The agenda for the Steering Committee meeting shall be circulated to all Heads of Delegations and Chairpersons of Executive Committees for comments before a meeting whenever possible. The AFACT Secretariat and the Hosting Secretary shall jointly maintain the minutes of the Steering Committee meetings to be adopted by the succeeding meetings. The AFACT Secretariat shall publish the minutes by the AFACT website.

The Chairperson may invite Conveners 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 save the agenda to dissolve AFACT or to revise the Bylaws. 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 an online meeting.



Article 9: Executive Committees and Working Groups

9.1 Executive Committees (hereinafter referred to as “EC”)

AFACT organized Business Domain Committee (hereinafter referred to as “BDC”), Technology & Methodology Committee (hereinafter referred to as “TMC”) and Community Support Committee (hereinafter referred to as “CSC”) as EC.

Each EC must have a mandate, terms of reference, and work program. Each EC member shall recommend its Chairperson to the Steering Committee for the ratification by the Plenary. Each EC may appoint a EC Secretary whenever necessary. The term of office for the Chairperson and the EC Secretariat shall be for a period of two years.

9.2 Working Groups (hereinafter referred to as “WG”)

To establish or to reform a WG under a specific EC, the interested parties shall submit the Chairperson of EC an expression of interest endorsed by at least three HoDs, a terms of reference, and an initial work program (hereinafter collectively referred to as “Submission”). Each EC shall evaluate the Submission. When the Submission is acceptable for EC, the Chairperson of EC shall propose a new WG or a reformed WG to the Steering Committee for ratification by the Plenary.

Each WG member shall elect its Convener to be approved by the Steering Committee, and ratified by the Plenary. Each WG may appoint a WG Secretary whenever necessary. The term of office for the Convener and the WG Secretary if it is appointed, shall be for a period of two years.

The WG shall meet at least twice a year. This can be either in the form of a physical meeting or an online meeting.

The Chairperson of each EC shall report its activities, including those of WGs under the EC, to the Plenary.

9.3 Termination of EC and WG

Any EC or its WG should be terminated by the resolution of the Plenary when three years have passed without submitting the Plenary its Program of works and/or without reporting its activities to the Plenary.

9.4 Task Force Team

The Steering Committee may organize a Task Force Team (hereinafter referred to “TFT”) to carry out a specific mission and/or function across the ECs delegated by the Steering Committee. The AFACT Chairperson shall recommend the TFT Convener to the Steering Committee for approval. TFT shall have terms of reference and a work program. TFT shall report the Steering Committee its activities at least once a year.



Article 10: Focal Point

Each AFACT member is required to have a single focal point (hereinafter referred to as “FP”), dedicated to the promotion, dissemination and implementation of AFACT objectives.

The FP shall identify the Head of Delegation and a contact person who shall be responsible for communication with the AFACT Secretariat the Hosting Secretary and all related parties. The FP shall provide the AFACT Secretariat updated information for communication, such as telephone number, fax number and e-mail address.

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/CEFACT and other related activities including trade facilitation.

EDICOM shall be organized by the Hosting Member subject to availability of their resources, 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 Region. To this end, the delegations of the Region 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 Bureau whenever possible. 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 Chairpersonship of AFACT or by a delegation designated by the Chairperson.

Close coordination between AFACT ECs (including their WGs) and relevant UN/CEFACT working groups and/or teams 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 and/or teams.

Article 13: Expenses

The Hosting Member shall cover expenses required to in organizing the Plenary Meeting, the Steering Committee Meeting, EDICOM, and the meetings for EC and



WG held before the Plenary Meeting, excluding food and beverage services which should be at host's discretion.

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: Intellectual Property Rights Policy

AFACT shall own the copyright in all draft and published deliverables developed under or pursuant to its procedures including, without limitation, Specifications, Rules, Guidelines, Minutes, Presentation materials, Models and Libraries which are published under the name or general auspices of AFACT regarding all its official procedures, subject to the underlying copyright of the contributing parties and all other legitimate copyright owners. AFACT will not charge royalties or any similar fees in connection with the implementation or use the deliverables by those applying the AFACT deliverables in accordance with the applicable procedures of AFACT. AFACT disclaims all warranties, express or implied, including specific all but not limited to, any warranty that the use of the information in the deliverables will not infringe any rights or any implied warranties of merchantability or fitness for a particular purpose.

Article 15: Working Language

The working language of AFACT shall be English.

Article 16: Effectiveness

These Bylaws enter into effect on 26th November, 2010, upon ratification by the AFACT Plenary.

Appendix 1: List of Members and Associate Members as of November, 2011

Members:

- Afghanistan
- Australia
- China
- Chinese Taipei
- Cambodia
- India
- Indonesia
- Iran
- Japan
- Malaysia
- Mongolia



Pakistan
Philippines
Korea
Saudi Arabia
Singapore
Sri Lanka
Thailand
Vietnam

Associate Members:

Pan Asian e-Commerce Alliance (PAA)

Appendix 2: Mandate UN/CEFACT Rapporteur for Asia

The mandate of the UN/CEFACT Rapporteur for Asia (herein after referred to as “Rapporteur”) shall be carried out, where appropriate, in liaison with heads of delegation to UN/CEFACT from the Region, as well as with the secretariat of the United Nations Economic Commission for Europe (UNECE) and other regional commissions and the UN/CEFACT Bureau.

Within Asia, the Rapporteur shall:

- (a) Promote and represent UN/CEFACT’s interests and activities to Governments, intergovernmental organizations, relevant trade associations and business and trade facilitation organizations;
- (b) Encourage the participation of experts in UN/CEFACT’s work program and stimulate the implementation of UN/CEFACT’s standards, recommendations and other deliverables;
- (c) Coordinate UN/CEFACT’s activities in Asia.

The Rapporteur shall present a report at each UN/CEFACT Plenary. The Rapporteur may raise issues directly with the UN/CEFACT Bureau and have an open invitation to attend the Bureau meetings in a consultative capacity.

The appointment as Rapporteur is for two years, renewable.

Appendix 3: AFACT Secretariat Terms of Reference

1. Background

The 27th AFACT Plenary resolved that AFACT should have a permanent secretariat and to assign Iran as the permanent secretariat..

It was the sense of the 27th Plenary that successive and earnest contribution extended by Chinese Taipei as ex secretariat should be commended and commemorated.



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 mission 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 including contact information of members 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,

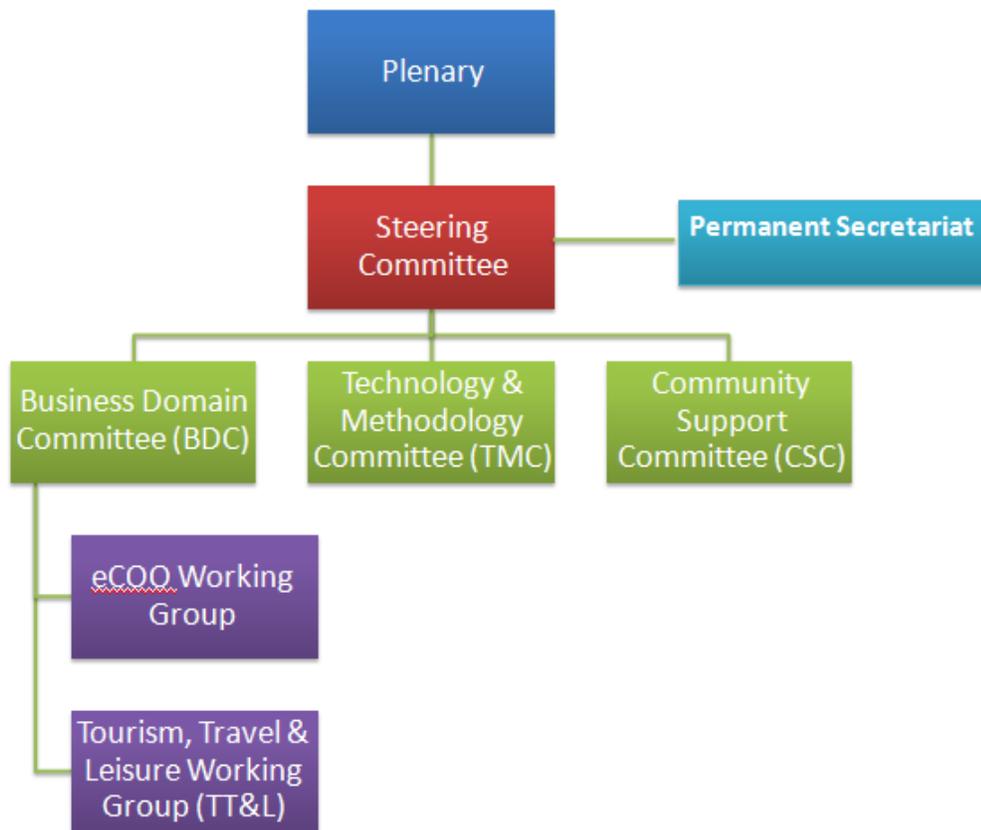
f) To attend UN/CEFACT Plenary meeting, if possible, to follow up its decision and discussion made during the meeting and feedback them to AFACT community, and

g) Any other business.



AFACT Structure & Members

Structure



Members

Afghanistan	India	Mongolia	Sri Lanka
Australia	Indonesia	Pakistan	Saudi Arabia
China	I. R. Iran	Philippines	Thailand
Chinese Taipei	Japan	Korea	Vietnam
Cambodia	Malaysia	Singapore	

Associate Member:

Pan Asian eCommerce Alliance (PAA)



Steering Committee Board Members



Chinese Taipei

Dr. Jyh-Sheng Ke

Chairman

Senior Fellow & Board Director

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Chinese Taipei Progress Report



Taipei EC/EDI Committee



SECTION I - GENERAL CONDITION UPDATE

1.1 Ranking in Global Index

Chinese Taipei's efforts to improve infrastructure and build capability for Information and Communication Technology (ICT) as recognized by several Global Indices between 2010 and 2011 are shown in Table 1. According to the results released by the Networked Readiness Index conducted by the World Economic Forum (WEF), Chinese Taipei was listed at 6th in the world.

Additionally, the Economic Intelligence Unit (EIU) pointed out that Chinese Taipei was placed 12th in the e-Readiness Ranking respectively. In respect to the Global Competitiveness Index, analyzed by the World Economic Forum (WEF), Chinese Taipei placed 13th worldwide. More importantly, Chinese Taipei ranked 6th in the latest IMD World Competitiveness Yearbook 2010 ranking.

Table1. Chinese Taipei's Ranking in Global Index

Index	Source	Ranking	Time released
Networked Readiness Index	WEF	6(Globally)	April 2011
		3(AP)	
e-Readiness Rankings	EIU	12(Globally)	June 2010
		5(AP)	
Global Competitiveness Index	WEF	13(Globally)	2011
World Competitiveness	IMD	6(Globally)	May 2011
		3(AP)	

Source: FIND, Institute for Information Industry (III, Aug. 2010)

1.2 Key ICT Index**1.2.1 Mobile Penetration Rate**

According to FIND (Foreseeing Innovation New Digiservices, III) statistics, in 2006 the total number of mobile phone holders in Chinese Taipei amounted to 15.44 million, 67.8% of the population nationwide. However, in 2010, the total number of mobile holders went up to 16.64 million with a respective penetration rate of 72%. This indicates a general trend of slight growth in mobile penetration rate.

1.2.2 Rate of Connecting Internet via WiFi



The result of the investigation conducted by FIND showed that 6.15 million users (26.6%) were connected to the internet via WiFi in Chinese Taipei in 2010, a 1.5% increase compared to 2009.

1.2.3 Rate of Connecting Internet via 3G/3.5G

The result of investigation conducted by FIND showed that 3.63 million users (15.7%) were connected to the internet via 3G/3.5G in Chinese Taipei in 2010, a 9.1% increase when compared to 2009.

1.3 Status of e-Commerce

1.3.1 Business E-commerce Market

In the past 10 years Enterprises have implemented e-supply chains and e-global logistics solutions in e-commerce applications. According to the survey of e-manufacturing carried out by the Department of Statistics of the Ministry of Economic Affairs, 65% of 4,069 effective samples of manufacturing have conducted businesses by information systems. 30% are planning to implement the e-technology of the CRM (Customer Relationship Management) system in the future, followed by the KM (Knowledge Management) system, which accounts for approximately 30%. The BI (Business Intelligence) system and the SCM (Supply Chain Management) system, which accounts for 29% and 26%. The information demonstrates that the Enterprises aim to focus on the implementation of the e-CRM and e-KM systems.

Exactly how to provide the location-based ICT services for SMEs in order to promote the related e-commerce applications in addition to developing innovative business models have become a government in assisting the SMEs to upgrade, restructure and develop e-commerce in the development of e-commerce of SMEs. The government would also strengthen the internet marketing capacity via the international network platforms and increases the visibility in the international market on internet marketing of SMEs in foreign markets. Up to June 2010, 15 industrial e-commerce portals were built in one year and 11 industry associations were assisted in the further enhancement of the application of e-commerce network. More than 2,034 Enterprises in total have been assisted in using e-commerce operations and 39 SMEs use the international network marketing platforms to extend their international markets.

1.3.2 B2C Online Shopping Market

According to a survey of the “EC Legislation & Infrastructure



Building-up Project”, Taiwan’s B2C market scale reached NT\$259.7 billion in 2010, and is expected to reach 508.8 billion in 2013. Domestic economy declined sharply due to the global financial crisis in 2009. However, the overall retail market has climbed slowly. Moreover, many traditional retailers lower the costs, expand distribution channels, manage the brand and step into the online stores to urge the growth of Taiwan’s B2C market.

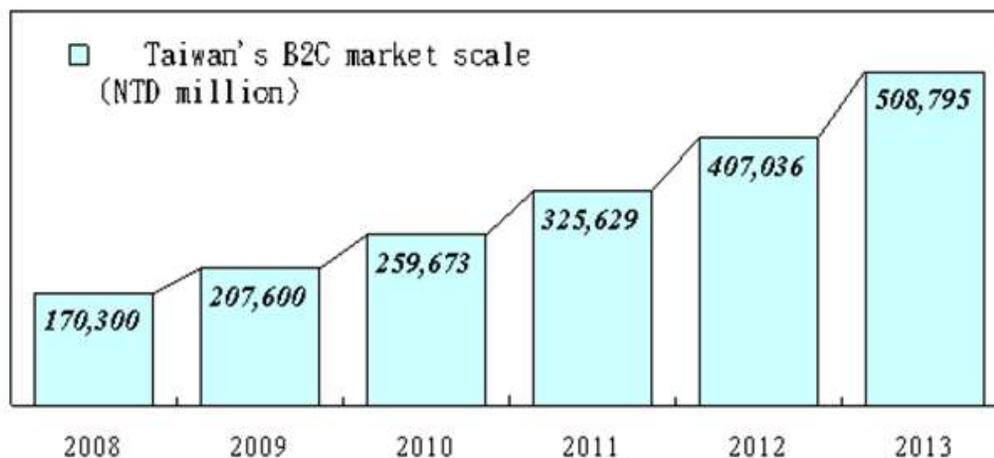


Figure 1. Taiwan’s B2C market scale between 2008 and 2013

Source: EC Legislation & Infrastructure Building-up Project, Civil Services of Doc, MOEA, October 2010

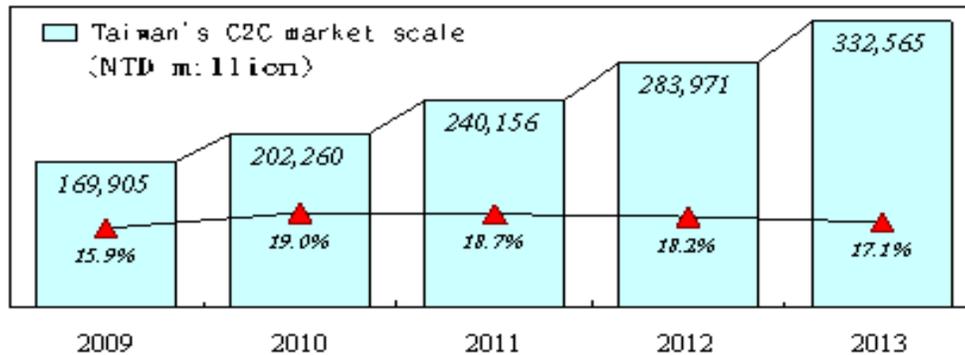
According to the survey, 42% of e-shops in Taiwan don’t have physical stores and 35.9% of e-shops are the extension of existing physical stores, 11.6% of e-shops and physical stores are established simultaneously and 9.3% of e-shops established online stores first then expanded to physical stores. A total of 68% of the stores expected a growth in 2009 and 77% of the stores are more optimistic in revenue growth and expect a positive growth in 2010. Less than 9% of the stores expect a decline of the revenue growth this year, 3% lower than last year. Although the revenue is growing, 54.9% of the stores have not broken even, only 28.6% of the stores make profits and 16.5% of the stores break even.

80% of the stores forecast a positive growth, but only 30% of the stores make profits. Although the potential growth of the online shopping market is good, highly competitive markets and low-margin goods and services cause the slow pace of making profits. Over 50% of the stores have not broken even yet.



1.3.3 C2C Online Shopping Market

According to the survey of “EC Legislation & Infrastructure Building-up Project”, Taiwan’s C2C market scale reached NT\$202.2 billion in 2010. Although the C2C market scale shows a growth by the increase of proportion of the online auction sellers, the growth has slowed down. Taiwan’s C2C market scale is expected to reach 202.3 billion in 2010 which is a 19% growth compared to 2009. The annual growth rate of C2C has slowed down year by year.



- Figure 2. Taiwan’s C2C Market Scale between 2009 and 2013

Source: EC Legislation & Infrastructure Building-up Project, Civil Services of Doc, MOEA, October 2010

According to the statistics, comparing with using online shopping, users have a lower proportion in using online auction which was 78% in 2009 and the highest proportion is net buyers (41% of net buyers, 33.1% for buyer and sellers and 3.9% for net sellers). However, compared to 2008, the proportion of users using online auction has increased. The average online consumption on the online auction in 2009 was NT\$7,074 (the survey data was NT\$8,276 in 2008). The main reason is that users have a conservative attitude on consumption expenditure by the economic impact. However, the overall market shows a growth for the increase proportion of the users using online shopping.

Looking to the future, users think three points need to be improved on regarding online auction: “The easier to find the products needed interface”, “Information security” and “The easier to be navigated website”. Comparing the improvements needed with online shopping, information security and visual effects are more striking. If online auction sellers want to compete with online stores, improving information security and increasing visual effects of web pages are good methods.



1.3.4 Personal Information Protection Act

A new version of Taiwan's Computer-Processed Personal Data Protection Law has been passed by the legislators and should soon in 2011 or 2012 come into force. The new law, which is officially called Personal Information Protection Act (PIPA), will replace the old one, and with a few exceptions, bind any undertakings which collect process or use personally identifiable information. To help online business companies doing the PIPA compliance, the MOEA has developed a managing mechanism named Taiwan Personal Information Protection and Administration System (TPIPAS). If an online business company considers it has fulfilled the requirements of TPIPAS, it could apply for an outside audit and after its success in the assessment, be granted a certificate.

1.3.5 Official Announcement of Mandatory and Prohibitory Provisions Governing Standard Contracts for Online Retail

The MOEA had, in June 2010, issued the Official Announcement of Mandatory and Prohibitory Provisions Governing Standard Contracts for Online Retail, which has been valid since January 2011. To protect online consumers against unfair terms in standard contracts provided by retailers, the announcement states that the retail industry must follow certain rules while drafting contracts for online sale. In other words, some terms must be included in the said contracts and some terms must not be put in. One of the most important effects of the announcement is that even if a retailer misprices an item for sale, unless the retailer can demonstrate its good faith and faultlessness, a contract would be concluded at that price between the retailer and a consumer who has paid for the item.

1.4 Taipei EC/EDI Committee

1.4.1 Introduction

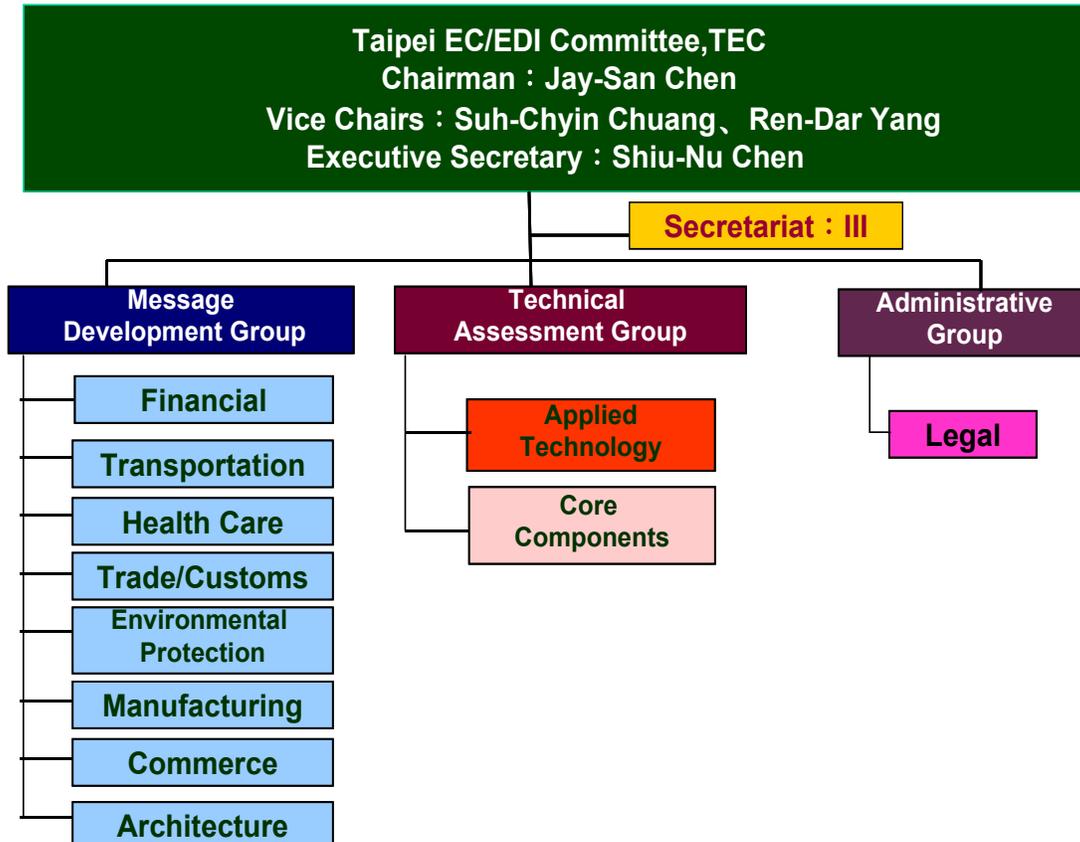
The Taipei EDIFACT Committee (TEC) was established under the Central Standards Bureau (formerly the Bureau of Standards, Metrology and Inspection), Ministry of Economic Affairs, in 1992 to promote the National Standards of Electronic Data Interchange, and to participate in international standardization of organizations and activities. TEC shifted to the Bureau of Standards, Metrology and Inspection, the Ministry of Economic Affairs in 1999. Taking into consideration the fact that EDI application had extended to e-Commerce, it was renamed the Taipei EC/EDI Committee in 2000



with the same acronym it currently uses: TEC. The current structure of TEC is shown in Figure 3.

1.4.2 Constitution

The General Director of the Bureau of Standards, Metrology and Inspection chairs the Taipei EC/EDI Committee.



Source: Taipei EC/EDI Committee (TEC) Secretariat, July 2009

Figure 3. Current Structure of TEC

Core Component Library Technical Standards in the Chinese version have been compiled as follows;

According to UN/CEFACT 2010 in compliance with Core Component Library from TBG17 D10A, Chinese Taipei finished proposing the technical Standards of the EC/Trade Facilitation Core Component which include domestic trade facilitation, Transport and Custom etc... into the Chinese version to enable cost reduction on trading and raise the competition for industries.

Version 1: CCL 06A pass in May 2006



Version 2: CCL 08A pass in October 2009

Version 3: CCL 09B pass in September 2010

Version 4: CCL 10A pass in August 2011

SECTION II – EDIFACT/EBXML/XML BASED STANDARDS DEVELOPMENT

2.1 e-Health Care Services

In early 2008, the Department of Health of Taiwan initiated the action to promote electronic medical records in accordance with HL7 CDA/XML standards. We have already completed 117 templates for medical documents on the standards for electronic medical records in May, 2011. In addition, we established a standardized management website of electronic medical record system in 2009 as guidance for hospitals and healthcare related industries so that those of the above templated documents could be widely and commonly utilized. The website also provides a software tool that will automatically convert the existing electronic information from the hospital database into the standardized format complied with the DOH's. However, we will carry on developing and generating more templates as well as maintaining the standards for electronic medical records. Concurrently, we will also assist hospitals and healthcare related industries to set up and utilize such standardized document so as to achieve the goal of sharing electronic medical records across hospitals.

Table 2. 117 Templates for Medical Documents

No.	Document	N°	Document
1	Conclusions Document	2	Discharge Summary
3	Progress Note	4	Provider Orders - Inpatient
5	Provider Orders - Outpatient	6	Visit Note
7	Provider Orders - Emergency	8	Study Report - Pathology
9	Patient data Document - Emergency	10	Emergency department Triage note
11	Nursing Emergency department Note	12	Consultation Note
13	Prescription for diagnostic or specialist care Document	14	Nursing Notes



No.	Document	N°	Document
15	Evaluation and Management Note	16	Vital Signs Measurement
17	Post-Operative Evaluation and Management Note	18	Anesthesia Records
19	Laboratory Report	20	EKG Study
21	Radiology Unspecified site and modality Study	22	US Unspecified system Study
23	Nuclear medicine study	24	EEG study
25	CT Unspecified system Study	26	Comprehensive History and Physical Note
27	Laboratory Report	28	Nutrition + Dietetics Consultation note
29	Medical Records	30	Summary of Death
31	Dentist visit note	32	TCM Visit Note
33	TCM Traumatology acupuncture	34	Admission History and Physical Note - Emergency
35	Medical Records - Inpatient	36	Admission history and physical note - TCM
37	Nursing Admission Evaluation Note	38	Pathology study
39	Prescription for medication Document	40	Nursing Discharge summary
41	Medical Records	42	Medical Records
43	Provider-unspecified Progress note	44	Inpatient Evaluation and management note
45	Cytology Cervical PAP tests	46	Anesthesia Hospital Pre-operative evaluation and management note
47	Anesthesia Consultation note	48	Summary of Death
49	Physical therapy Evaluation and management note - child	50	Physical therapy Evaluation and management note -



No.	Document	N°	Document
			Orthopedics
51	Occupational therapy Initial assessment note - musculoskeletal	52	Rehabilitation Occupational Therapy Claims Attachment - Central nervous
53	Occupational therapy visit note	54	Speech therapy Initial assessment note - Child
55	Speech therapy Initial assessment note - Language	56	Psychology Evaluation and management note
57	Psychology Records total Encounter	58	Social work Evaluation and management note
59	Study Report	60	Medical Records
61	Admission History and Physical Note	62	Evaluation and Management Note
63	Evaluation and Management Note	64	Notes
65	Progress Note	66	Nursing notes
67	Evaluation and Management Note	68	Home Care Referral
69	Disease Severity Evaluation	70	OFF Service Note
71	ON Service Note	72	Weekly Summary
73	Obstetrics Admission Note	74	Labor and Delivery Records
75	Labor and Delivery Records	76	Neonatology Delivery Note
77	Burn Evaluation Note	78	Burn Progress Note
79	Personal health monitoring report Document	80	Medical Records
81	Note	82	Evaluation and Management Note
83	Admission Evaluation Note	84	Discharge Assessment Note
85	Discharge Note	86	Transfer Summarization Note
87	Subsequent Evaluation Note	88	Visit Note



No.	Document	N°	Document
89	Consultation Note	90	Post-Operative Evaluation and Management Note
91	Evaluation and Management Note	92	Chemotherapy Records
93	MRI Unspecified site study	94	Mammography Study and Report
95	Endoscopy study	96	Peripheral Vascular Study and Report
97	Spirometry study	98	Audiology study
99	US Study - mammary	100	Study Report - cystoscopy
101	Study Report	102	Nerve conduction study
103	Electromyogram Study	104	Radiation oncology Evaluation and management note
105	Document summary - Radiation	106	Occupational therapy Evaluation and management note
107	Occupational therapy visit note	108	Health Quality Measure document
109	Study report	110	Laboratory report
111	Prescription for medication	112	Discharge Summary
113	Laboratory Report	114	Pathology procedure note
115	Western medicine Visit note	116	Chinese medicine Visit note
117	Dentistry Visit note		

There are 13 Implemented Hospitals as below 4 standards of electronic medical records, such as 1. Study report. 2. Laboratory report. 3. Discharge Summary. 4. Prescription for medication.



Table 3. 13 Implemented Hospitals

1	Ditmanson Medical Foundation, Chia-Yi Christian Hospital
2	Show Chwan Memorial Hospital
3	St.Martin De Porres Hospital
4	China Medical University Hospital
5	Tainan Municipal Hospital
6	Kaohsiung Municipal Gangshan Hospital run by Show Chwan memorial Hospital
7	China Medical University Hospital East District Branch
8	Pingtung Christian Hospital
9	China Medical University Hospital Fongyuan Branch
10	China Medical University Hospital WH Branch
11	Chang Bing Show Chwan Memorial Hospital
12	China Medical University Hospital Taipei Branch
13	China Medical University Beigang Hospital

SECTION III – E-READINESS AND E-APPLICATION -- E-GOVERNMENT/E-BUSINESS RELATED PROJECT UPDATES

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

3.1 Manufacturing

In 2007 and 2008, due to the previous efforts, IDB was invited by SCC to join the “Customer-Chain Operations Reference-model (CCOR)” working groups to discuss the processes, metrics and best practices of sales activities and formulate the CCOR standard version one. The key processes include “Plan”, “Relate”, “Sell”, “Contract”, and “Assist”, and the five major metrics are “Reliability”, “Responsiveness”, “Agility”, “Asset management” and “Costs”, while the best practices are still under discussion. Due to the early involvement of CCOR standard, Chinese Taipei manufacturers which



focus on their own brands or channel developments can be benefited by learning from foreign success stories.

In November 2008, there was an international seminar hosted by IDB to introduce most updated CCOR standards including processes, metrics and best practices to Chinese Taipei own brand manufacturers, such as Mio Technology, Johnson Health Tech., Gigabyte, and BenQ. The keynote speaker, Caspar Hunsche CTO of SCC, was very pleased to know that Chinese Taipei companies wanted to adopt CCOR standards in order to improve their customer-chain processes and activities to pursue the world class performance, and understand the meaning and value of standards for Chinese Taipei industry. Due to these efforts, IDB was rewarded a “Commitment Award” by SCC to show the contribution of IDB to the international standard community.

In 2011, IDB unified the sub-items of The Project of Manufacturing Sector Value Chain IT Application and The Project of Manufacturing Sector ICT Value-Added to promote e-Business standards. Relatively, the e-Business standards operations of the traditional industry is far less than the Information Electronics industry, therefore, the promotion put emphasis on strengthening the industry impacted by the trade liberalization. For example, Tainan Enterprises, Honmyue Enterprise Co., Namchow Enterprises, Pao Soung Co. and other entrepreneurs. The scope of e-Business standard applications includes; the Channel business order, the Exchange e-Business standard of cargo information, quotation, the product resume, survey report and other applications. (Table 4).

Table 4. The Firms and Applications of the Manufacturing Industry System e-Business Standard Promoted by IDB in 2011 (Source: IDB, MOEA)

Firm	Industry	Applications	Connect Firms
Tainan Enterprises,	Textile	1. Established the exchange document standard of supply and demand flow, and confirm system with overseas unites and factories. 2. Followed the international flow standard SCOR.	6



Firm	Industry	Applications	Connect Firms
Honmyue Enterprise Co.	Bag and Box materials	1. Established the exchange document standard of supply and demand flow, and confirm system with overseas unites and factories. 2. Followed the international flow standard SCOR.	4
Namchow Enterprises.	Food	Established the exchange document standards of the production and examination with supplier and food processing factory.	14
Pao Soung Co.	Bedding	Established the exchange document standards of design, ordering, sales predict with bedding sale channels.	25

To take the e-Business standard operated in Honmyue Enterprise Co. as the example, Honmyue Enterprise Co. was established in 1970, it represents industrial fabric, family decoration fabric, it is at garment producer and also an important entrepreneur of bag packaging fabric in the domestic sector. According to globalized tendency, Honmyue Enterprise Co. built up the global headquarters in Taiwan, and utilized information and communication technologies in order to expand the depth and breadth of the original Taiwan supply chain system to the global supply chain system for fast production, prompt delivery, sharing information, customer satisfaction, and the creation of service value. In addition to aiming at the mainland market, Honmyue Enterprise Co. will extend services to the pre-sales service before the order, and develop coordination work platform to promote the coordination research ability of the global supply chain system and brand customer. With those superiorities, to open the mainland industrial used cloth market.

The difficulties of Honmyue Enterprise Co. applied the e-business standard as below:

1. The cost, sample yardage is high. (included sample yardage, weaves, Lab/Dips, sample dyeing, sample).



2. The information of production branches replied to Headquarter is not rapid.
3. Lacks immediate supplier information for best purchase strategy of Headquarter.
4. The control of mainland market channel information is insufficient.

Therefore, for the promotion of customer service quality, and the improvement of above questions, Honmyue Enterprise Co. utilizes the Information and communication technologies to formulate with the e-Business standards of the supplier inquires, work sheet, packing list, and other documents to achieve the goals of the rapid suppliers interacts, accelerating customer service, and to quality improvement (for example Fig 4: demonstrates).

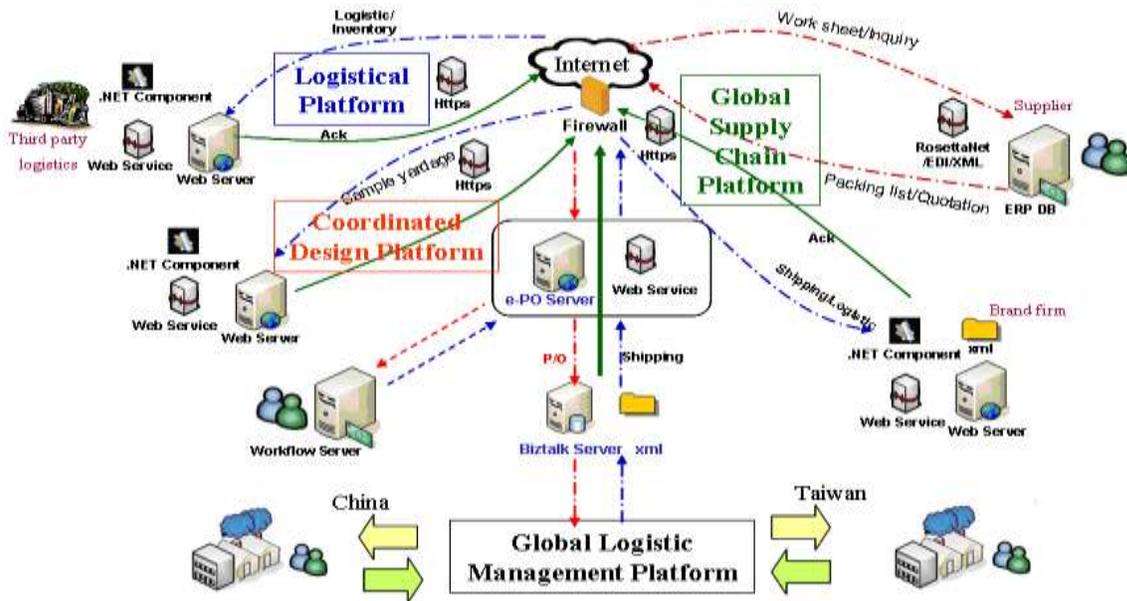


Figure 4. The structure and e-business standard of Honmyue Enterprise Co. information applications

3.2 Commerce

3.2.1 The Achievement of e-Business Consulting in B2B for Chinese Taipei Distribution Services Industry in 2010.

In order to give impetus to the business services operation in Taiwan towards the technological services and global development for future business development, the Department of Commerce, Ministry of Economic Affairs has launched “The U-Commerce Innovation and Networks Development Plan” plans to and through ICT, spirit distribution services in



creating a diverse and integral model of customer services in the future, value-added services development, international business services, visibility enlargement, and also to enhance the operational efficiency and reduce operating cost.

“The U-Commerce Innovation and Networks Development Plan” in 2010 subsidized 13 cases of commercial projects. A total of 3,825 trading partners came together because of this development plan and invested the total sum of NTD 823,000,000. This in return affects business transactions and trading that totaled around NTD 22,510,000,000 and opened up an extra 1,065 job openings.

Summary 13 Applications of U-Commercial Use (below)

1. By using Web POS's intelligent multimedia renewal service system, all retail stores managed to unite and create a new brand and successfully culture, technology, fun and fashion with food to create a new operation model.
2. Constructing a systematic central kitchen processing and delivery network by using an e-kitchen management system to oversee menu management, supplies management, on-scene management, retail store management etc, to optimize the central kitchen operation. This in return gives precise control of available stock material and at the same time provides shipping management and satellite control of the whole dining process to ensure quality of sales.
3. Constructed a cross party sales design service platform which provided channels for stores that improve sales by providing visual design suggestions, communication and marketing plans, web marketing strategy and a design management tracking service. This in return increases web sales and creates more business opportunity.
4. Providing customers with a one-stop-shop experience and in return achieved multiple product marketing using one platform. We also set up a customer service and care system and created new opportunities for online marketing of similar products. This provided gift package customers receiving services in child care product advices through their children's growth. This service obtained rave reviews from both existing and new customers.
5. Cooperating with multiple brands, we built a one-stop-shop buy and rent platform for the current market. This in return raised property sales and



- supplied an advertising and marketing platform for the media. By having this platform, customers are able to shop not only for single brands but across multiple brands and in return find items that meet their criteria.
6. To meet market needs, using platforms such as facebook and iphone, we gathered and analyzed the needs of consumers. Using these social networks, we managed to market events and broadcast news to our loyal customers. This successful model was adapted to Malaysia and Singapore and opened up the international market
 7. Built an “ICT consumer integration service platform”, which provided tech support and repair, failure alarm and information safety in a single service window thus minimizing the time consumers need to call in and check on repairs, technology support, recharge service, and increased the numbers of existing customers.
 8. Building and providing a co-op online platform for shoe manufacturing related participants (branded companies or designers). A simple and easy to use system providing a higher possibility of different materials purchased by buyers thus giving a worldwide sales model for other cloth material suppliers.
 9. Transferring from an information providing supplier to a third party service provider. Providing developers and intellectual property providers a better service, thus minimizing development cost and increasing product quality. Also helping local and international sales of specialized technology and increasing the economic value of both parties.
 10. Using world travel mapping system, WEB 2.0 and reverse search map technology, we provided a personalized online travel package. (including: GPS, self set itinerary, itinerary suggestion and cell phone itinerary download etc.) At the same time providing a platform for advertisers and bringing new business opportunities for the travel industry.
 11. Providing consumers with a totally satisfying interactive platform and providing supply chain and dealers with product information. This in return provides consumers with details of products they seek, thus helping them research and plan their purchase. This increased consumers’ service value and increased actual group customer effect.
 12. Constructing a multi-intelligent menu ordering system and providing customers with a variety of ordering formats (web, mobile, phone, fax). Also organizing all retailers ordering info thus providing headquarters with a more efficient way to manage large amount of deliveries and orders providing network, which leads to a better service for “FORMOSA



CHANG” retail stores’ take-out and delivery.

13. Organizing local tourism resources and building an information service platform. By working with three parties(literature products, hotel booking and information service) for an organized marketing goal. By combining local art culture and fashioned living, it ignited the cultural creativity products and helped opened up international markets.

3.2.2 Enactment of the Chinese Taipei “Logistics & Supply Chain Management Service Initiative” in 2011

To promote and support Logistics Service Providers (LSP) to enhance business scale and service capabilities in the global marketplace, the Ministry of Economic Affairs led and sponsored the “Logistics & Supply Chain Management Service Initiative” program. The Ministry encouraged LSP to consolidate with each other and develop value-added logistics services while at the same time creating supply chain solutions through adopting ICT technologies to meet the ever-increasing needs of Enterprises as business environments are changing dramatically. So as Enterprises strive to enhance supply chain efficiency, lower inventory level and overall supply chain operational costs, eventually they become more competitive in managing global supply chains.

In June, 2011, the Department of Commerce supported eight projects, including three logistics alliances and five niche logistics services.

A total of 277 LSPs and 135 Enterprises joined these e-logistics hubs to initiate proceedings in Freight Document Exchange, Online booking, Supply Chain Visibility, VMI, Order Management, RMA, and ISF. The government’s —Logistics & Supply Chain Management Service Initiative has made a significant difference in enabling LSPs to provide integrated logistics services, exchange freight information efficiently, and provide timely shipment and inventory visibility along the supply chain. In addition, LSPs have increased their investment in ICT and e-logistics services by US\$3.52 million. It essentially helps heighten the level of service, as well as the competitive edge of the Chinese Taipei logistics industry. The service features that e-Logistics Hubs provide are illustrated in Table 5.



Table 5. The Service Features of e-Logistics Hubs in June, 2011

No. of participant LSPs	Led by LSP Companies	No. of supported Hubs	Type of e-logistics Hubs	e-service functions
196	1. King Freight International Corp. 2. ITI INT'L TRANSPORTATION INC. 3. T.H.I. Group	3	Logistics Alliance	1. e-Document 2. e-Booking 3. e-VMI 4. Order Management 5. Supply Chain Visibility 6. RMA 7. RFID 8. Import Security Filing
81	1. President Logistics International Company 2. Harvest Logistics Service Co., Ltd. 3. UT Freight Service 4. Sound Hope Global Logistics Co., Ltd. 5. Pada Logistics Co., Ltd.	5	Niches Logistics	

Furthermore, the Department of Commerce has developed 65 XML standard documents for logistics operations, fully complying with United Nations Center for Trade Facilitation and Electronic Business (UN/CEFACT) ebXML, UMM, CCTS(Core Component Technical Specification), and NDR(Naming and Design Rule). Up to 2010, these standard documents have been adopted by 3,664 LSPs. This infrastructure not only expedites the deployment of e-logistics service among Chinese Taipei logistics industry, but also ensures interoperability with the global logistics community in the near future.

To fulfill the industry's demand for professionals and talent in managing logistics & supply chains, the Department of Commerce has sponsored non-governmental training organizations in providing vocational training and certification programs. In 2010, 236 professionals have completed training programs, 104 passed examination to receive certification from FIATA, SOLE, CILT, and other organizations.



3.3 Environmental Protection

Taiwan Environmental Protection Administration (TEPA) has been developing a number of environmental-related data standards and information systems for environmental data exchange and sharing. The preliminary results in the past year are summarized as follows.

1. Environmental Quality Geographic Data Standards

In order to promote the circulation of environmental quality monitoring data and integrate heterogeneous geospatial data, TEPA has drafted a data standard about environmental quality monitoring following the international standards that Open Geospatial Consortium and international standard organization have set. TEPA unified the content and format with Geography Markup Language (GML) to accelerate the electronic data exchange of environmental quality monitoring data. The standards also encourage the integration with geographic information system and get more value-added application. There are 20 items of air quality monitoring and water quality sampling geographic data standards be drafted in 2009. About 11 items of soil pollution and solid waste geographic data standards be drafted in 2010. About 16 items of pollution control, environmental sanitation, noise and vibration, and non-ionized radiation geographic data standards will be drafted in 2011. The standards can be announced after passing the verification of a standard committee. Exchange and application of environmental quality data will be more convenient.

2. Taiwan Environmental and Natural Resources Central Data Exchange (TENRCDX)

The purpose of this platform (Fig. 5) is to establish a consistent policy and infrastructure for authenticating submissions, in order to provide information security and data quality, and to increase TEPA's capability to restructure and distribute Environmental and Natural Resources data between information recipients both in the agency and with external organizations. Currently, there are many organizations and agencies, including several federal government agencies and local communalities, involving the work of Environmental and Natural Resources data production and exchange. It is very difficult to share data since the information typically resides on geographically disparate and heterogeneous databases in different data formats and semantic. TENRCDX adopted XML as a standard for data exchange among different agencies and implemented a number of software toolkits that can assist each agency in transforming their data to a XML file, making the data exchange more efficiently and consistently.

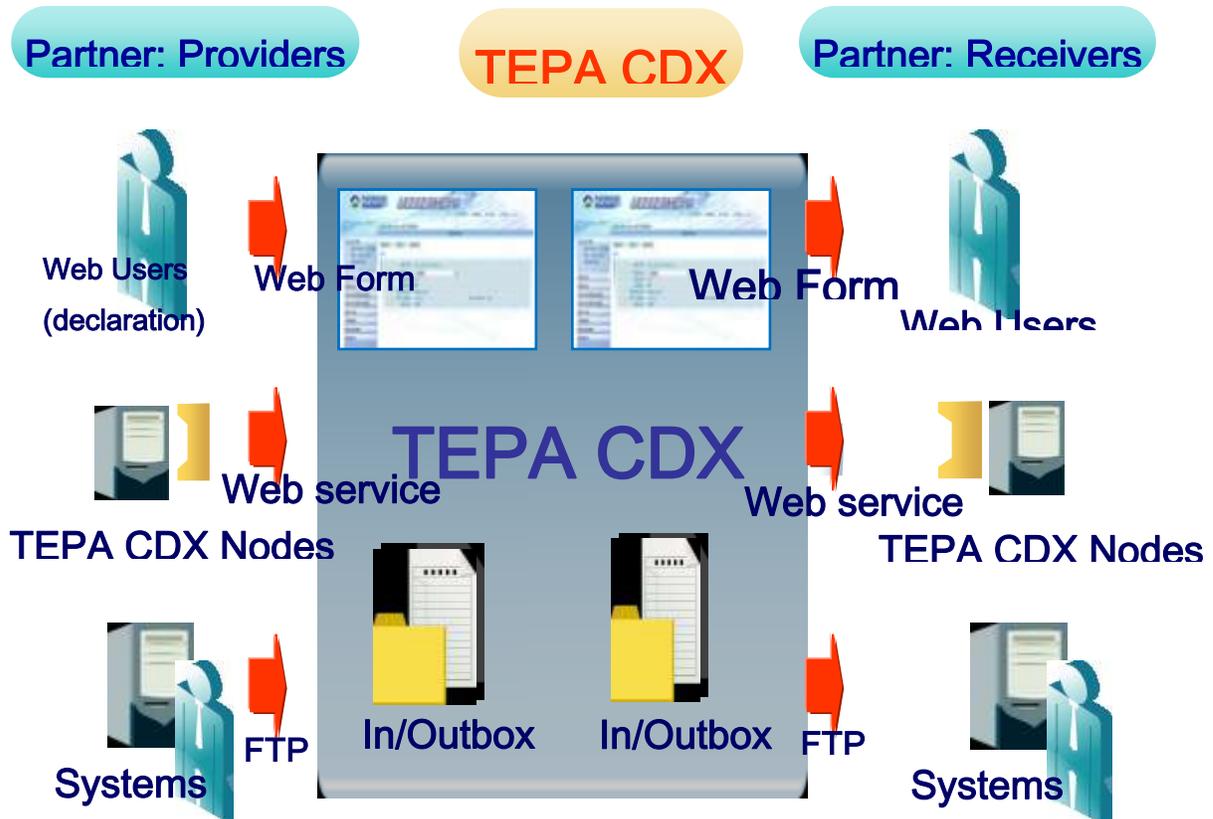


Figure 5. Platform of TEPA

3. Taiwan Environmental Data Warehouse System (TEDWS)

TEPA has constructed an integrated data repository - Taiwan Environmental Data Warehouse System (TEDWS), to consolidate and reconcile information from across disparate TEPA units and separate systems, including the Air Pollution Control System, the Water Permit Database, the Hazardous Waste Control System, and the Toxic Release Database. The TEDWS exchanges data through the usage of Web Services technology, XML file, with 31 different information systems which are mentioned above, to make the exchange process easier and more reliable. The data extracted from heterogeneous sources can be transformed into a standard format so that it can be easily accessed by the public. Furthermore, the Data Warehouse can also create a powerful analytic platform for strategic decision-making.



Data Warehouse Architecture

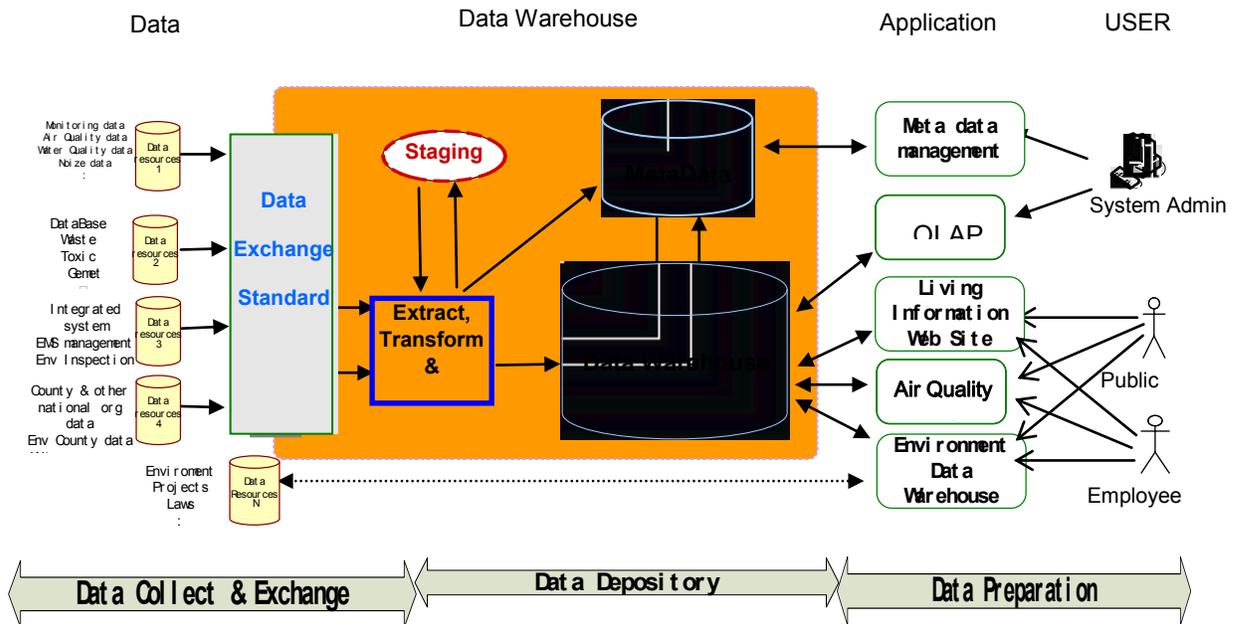


Figure 6. Data Warehouse Architecture

3.4 Transportation

The Ministry of Transportation & Communications (MOTC) has launched the maritime single window service platform - MTNet (Maritime Transport Network) since Jan. 1, 2006. The MTNet has achieved the following goals;

1. To integrate the independently developed information system of the major ports of Chinese Taipei.
2. To provide cross-region, cross-harbor, and cross-agency information receipt/delivery functions.
3. To implement the single-window service platform and application of port business.
4. To form a standard information interchange center with linked ports webs.

MTNet main achievements in 2010 are listed as below.

3.4.1 The implementation of the single-entry MTNet harbor information system has reduced user repeated login time by more than 50%.

By gaining access to all the connected systems through a single signing on, port related users are able to reduce the login time by more than 50%. The users of the MTNet have increased from 500 in early 2006 to 11,221 by June 30, 2011. The monthly transaction is more than 100,000.

3.4.2 The successful development of a Port E-payment and E-invoice System, which sharply reduced the time needed for payment of port dues and



charges.

The completion in November 2005 of development a Port E-payment and E-invoice System provided an online real-time service or ACH (Automatic Clearing House) for payment of port dues and charges. The system has already been put into use in Keelung, Taichung, Kaohsiung, Hualien , Taipei , SuAo and AnPing ports, and is currently being used for e-payment by 115 corporations and for e-invoice by 111 corporations. The system has sharply reduced payment time from the 60 minutes needed at counter to just 1~3 minutes on average via internet.

3.4.3 The Implementation of the MTNet IMO Dangerous Goods Information System.

The IMO FAL Form Dangerous Goods Application System implemented for Kaohsiung, Hualien and Taipei port in 2010, will be launched for Keelung and Taichung port before the end of 2011.

3.4.4 Carrying out an Overhaul of Port Administration Procedures, Resulting in the Saving of more than 30% of Application Time for Port Related Users.

The 79 port administration procedures have been reviewed, simplified and consolidated into 34 procedures. The completion of this task in 2006 resulted in port related users saving 30% of the time previously needed to make these applications.

3.4.5 The Implementation of RFID Driver Pass in Kaohsiung, Taichung and Taipei Port Gate Control System to Shorten Entry and Exit Time for Container Trucks.

An automatic gate control systems with RFID driver pass system was implemented in Kaohsiung, Taichung and Taipei Port at the end of 2010. Up to June 30, 2011, the RFID driver pass for container trucks issued more than 12,000. The time required for each container truck to pass through the gate of port has been massively reduced from 3~5 minutes to just 3 ~5 seconds.

3.4.6 The Business Process Reengineering (BPR) of the Navigation Management System.

The MOTC has been working on the business process reengineering (BPR) of the Navigation Management System since the end of 2003, the number of different application forms have reduced from 71 to 48. Preparation of the planning report was completed at the end of 2004, implementation commenced in 2005, and the vessel port entry and exit system was fully installed, coming on- line officially in January 2007.

After that, the "Vessels Management BPR System" came on- line in January 2008. The "Crew of Vessel Management BPR System" launched in



March, 2009. The "Shipping Liners Management BPR System" came on-line in Feb. 2009.

The BPR system serves the pre-processing of port warehousing applications, providing computer processing automatically on receipt of an application and immediately sending back the result. If an application is not approved, the fully automated system will immediately alert the shipper in order to deal with this.

3.4.7 The One-stop Services Integrated Navigation Management System with Harbor and Stevedore Service launched.

The one-stop services integrated Navigation Management System with Harbor and Stevedore Service, launched at the end of 2010, and reduced the user delay time by 3-5 minutes. The information of vessel port entry declaration is transferred to Harbor and Stevedore Service System automatically. The user has no need to repeatedly provide entries.

The outstanding success of MTNet Project in providing full online connection to 47 harbor operation systems earned it an outstanding project award in the trade facilitation category of the Taipei EC/EDI Committee's 2006 eAsia Award on July 25, 2006. It was also elected to represent Chinese Taipei at "The 2007 eAsia Award" hosted by Thailand on August 9, 2007, where it garnered international honor by winning the Best Innovative Applications & Operations Award in the Trade Facilitation Category.

To continue boosting and extending the service functions of the MTNet single-window service platform, and to achieve the goal of full network interconnection and data exchange cooperation between domestic and foreign data platforms, the MOTC has already planned the new Project (2012~2016) for the end of 2011. In the future, active efforts will continue to be made to apply the concepts of "facilitation, intelligence, securitization, and internationalization" in pursuing the main objectives of "establishing a safe and smart, high-quality shipping and port environment."

3.5 Customs

Chinese Taipei Customs has fully automated its sea and air cargo clearance systems since 1995. In line with the current business trend featuring high-tech, zero-inventory, just-in-time distribution and global logistics, Chinese Taipei Customs has also stepped up efforts to proceed with a series of modernization initiatives in recent years to create a barrier-free clearance environment. In addition to the simplification of clearance procedures, since 2009, Customs has actively launched five sub-projects under the "Ubiquitous Economy and Trade Network Plan,"(Fig.7) including



the Customs-Maritime-Trade (CMT) Single Window Project, Advance Cargo Information Project, AEO (Authorized Economic Operator) Certification & Management Project, Cargo Movement Security Project, and Inspection Technology Modernization Project, in order to meet the goals of facilitation, transparency and paperless clearance. In the meantime, Customs has harmonized its operations according to the initiatives promoted by international organizations such as WTO, WCO and APEC.



Figure 7. Ubiquitous Economy and Trade Network Plan

“CMT Single Window Project”, which is set to be finished and start operation in 2013. It principally aims at integrating the existing three main information systems, i.e. “Customs Clearance System”, “Marine Port Information System” and “Facile Trade Net (FT-Net),” so as to consolidate the data from the Customs, port authority and trade-related agencies. It is to simplify import/export clearance procedures and establish a more facilitated single window system to provide a sole portal for stakeholders to deal with import and export business, and, in the meantime, offer a platform for proceeding with international data exchange. In the constructing CMT Single Window, we will develop eight services include; Internet Applications, Internet Information Inquiry, B2G Application Message Transmission, G2G Application Information Exchange, etc. as shown in the figure, to accomplish the purpose of Single Window that we build. We expect to achieve the ultimate goal of providing a “full services at one application” system in a facilitated and secure international trading environment, so as to upgrade the Customs’ service quality and enhance international competitiveness.

Customs is creating Advance Cargo Information system, which will start operation in 2013 as well, on cargo and container shipments in time for adequate risk assessment to take place. The objectives of this system include implementing Advance Cargo Information, establishing a risk-management system to identify potentially high-risk cargo and containers, reengineering



sea and air cargo clearance system, and exchanging cross-border information, etc.

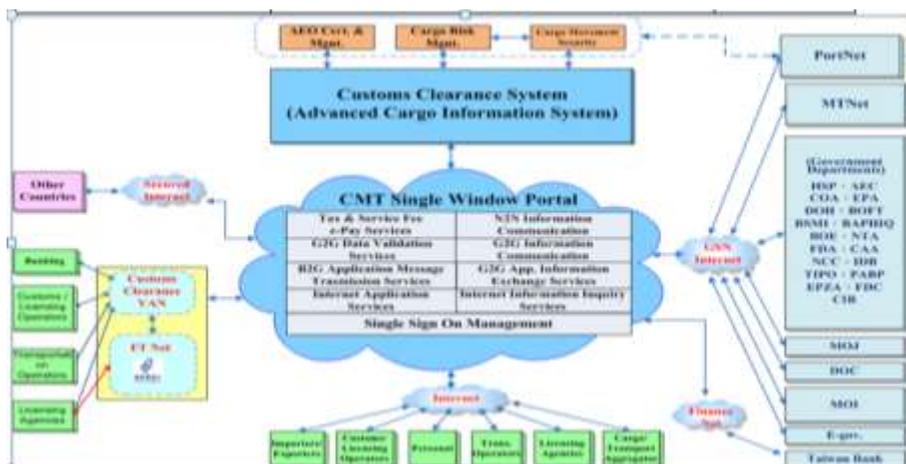


Figure 8. System Framework and Services

Customs has been formulated the regulations and validation criteria for granting AEO status to importers and exporters since December 2009. The regulations were revised in December 2010 to extend the scope of AEO system to other operators in the supply chain, such as customs brokers, carriers, and freight forwarders, etc. To date, the number of business firms acquiring the Status of General AEO has reached 333, while that of the firms which have acquired the Status of Security AEO has reached 20.

Customs applied RFID technology to the transshipment containers in Kaohsiung harbor. Based on this successful experience, Customs is carrying out the “Cargo Movement Security Project” including the implementation of the RFID e-Seal systems in major seaports and the airport of the island. The RFID e-Seal will be applied to import, export, transit and transshipment containers in the near future. The RFID e-Seals can raise integrity and transportation security of containers. By adopting use of RFID technology, the speed of logistic flow and the efficiency of Customs clearance can be enhanced. It creates a win-win situation in that the private sector enjoys cost reduction and the public sector saves on manpower.

In terms of “Inspection Technology Modernization Project”, since March 2010, some containerized goods have been examined by non-intrusive inspection instruments at the manifest-filing stage and the declaration-filing stage on a trial basis, in order to reduce physical examination rate of containerized goods and minimize traders’ costs as well as expedite cargo clearance operations.



3.6 Finance

3.6.1 Current Status of Financial EDI Standards Application:

Table 6. 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: 21
- Clients: around 15,587 users in the field of Electric Information Service Transport Trade Medicine Pharmaceutical Industry Chemical Industry Finance and so on.

3.6.3 Transaction Statistics:

- In 2010, cross-bank transactions through Financial EDI reached 2,627,149 deals in total, the total amount of money was 95,536 million US dollars and the average amount per deal was USD 36,364



Table 7. Cross-Bank Transactions through Financial EDI

	Transaction	Total amount of money (Million US\$)	Average amount per deal
2005	2,617,142	82,150	US\$ 31,400
2006	2,774,598	81,092	US\$ 29,300
2007	3,012,961	91,145	US\$ 30,300
2008	3,200,862	90,422	US\$ 28,249
2009	2,785,472	78,809	US\$ 28,292
2010	2,627,149	95,536	US\$ 36,364

3.6.4 Message Development of Financial 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



Request/Response	Draw Down Add
Request/Response	Draw Down Cancel
Request/Response	Due Payment Notice
Request/Response	Reconcile Input
Request/Response	Supplier History Inquiry
Synchronization Response	Notification: Financing
Synchronization Response	Notification: Payment
Funds Transfer Request/Response	Transfer Add
Request/Response	Transfer Synchronization
Request/Response	Transfer Audit
The Bill Presentment Service	Bill Inquiry Request/Response
Request/Response	Bill Inquiry Request/Response
Request/Response	Bill Status Modification

3.6.5 Current Status of Finance Development using XML:

There are 38 banks provides XML services to their customers.

3.6.6 Transaction Statistics:

- In 2010, cross-bank transactions through Financial XML reached 2,584,892 deals in total. The total amount of money was 28,416 million US dollars and the average amount per deal was USD 10,993



Table 8. Cross-bank Transactions through Financial XML

	Transaction	Total amount of money (Million US\$)	Average amount per deal
2005	32,069	454	US\$ 14,200
2006	57,214	646	US\$ 11,300
2007	105,365	1,202	US\$ 11,400
2008	210,998	2,121	US\$ 10,052
2009	500,317	4,710	US\$ 9,414
2010	2,584,892	28,416	US\$ 10,993

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

3.7 Construction and Planning

Achievements of Electronic Procurement (e-Procurement)

1. The e-Gazette for Government Procurement

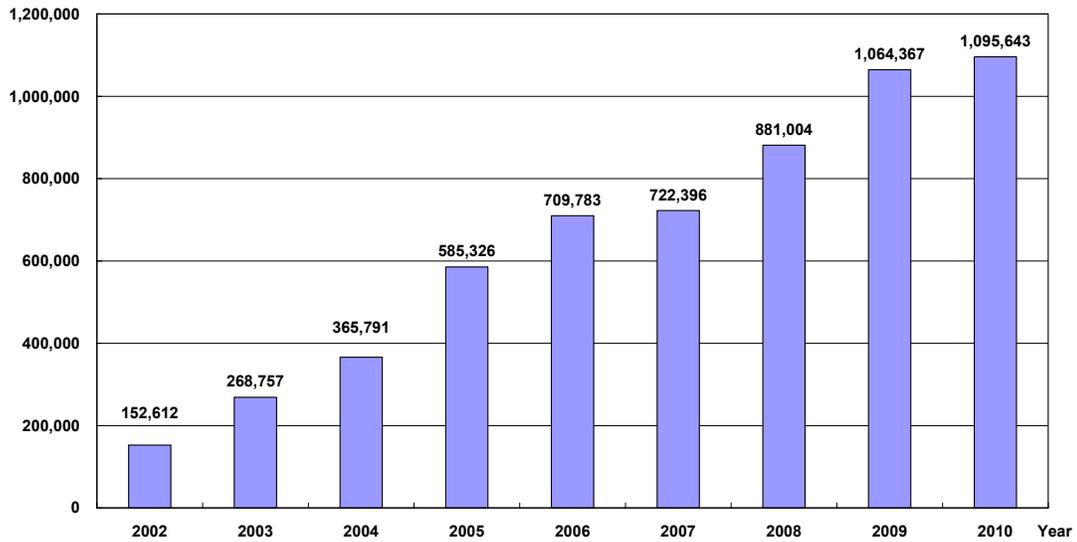
The e-Gazette has been adopted and publicized by the PCC (Public Construction Commission) in order to completely replace the hardcopy Gazette since 2010. In 2010, a total of 19.77 million enquiries were received through the Government e-Procurement System (GEPS), which is more than 1.64 million hits per month. This fact reflects the achievement of GEPS for providing open and transparent information, as well as saving paper consumption, energy and reducing carbon emission.

2. e-Tender Documentation for Downloading

The GEPS provides 24-hour online service for suppliers to download electronic tender documentation via internet, which saves a lot of time and the cost of the procuring personnel and suppliers. In 2010, there were 265,801 solicitation notices, of which 263,840 had e-tender documentation for downloading, i.e. 99% approximately. In the same year, there were 1.09 million downloads of those e-tender documentation by suppliers.



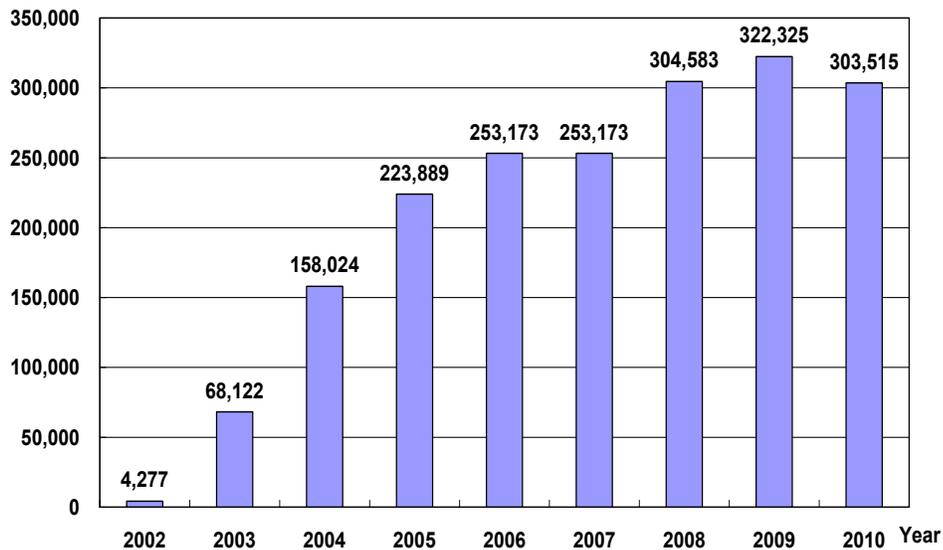
Table1- Number of eTender Documentation



3. e-Ordering

GEPS enables entities and suppliers to conduct government procurement through e-order and e-payment via internet instead of conventional procurement procedures. In 2010, there were more than 300,000 e-orders, with a total value of NT\$ 30.2 billion.

Table2- Number of e-Order



3.8 Trade Facilitation Plan

The results of implementing the first stage of the Trade Facilitation Network Plan fully indicate the benefits of integrating certification/inspection and customs clearance information. In order to



move forward with the online integration of certification/inspection, Customs clearance, port authorization and related areas of concern, the BOFT launched the second stage of the five-year Trade Facilitation Network plan in 2007. This stage consists of three areas, each of which has three elements: (1) Combining the computer systems used by the agencies and bureaus in the three areas of trade administration, port administration and Customs; (2) Reducing the amount of time needed for application, payment and tracking; (3) Improving security inside the border, outside the border and on the border. The plan includes simplifying certification/inspection and documentation, enhancing risk control, inspecting trade-related laws and regulations and strengthening international cooperation. Likewise, it includes five different B2G and G2G mechanisms: (1) Verifying and exchanging certification/inspection documents between relevant authorities; (2) Connecting certification/inspection authorities with the Custom's system in regard to document verification; (3) Accepting online payments for services and application fees; (4) Tracking the status of applications for certification/inspection; (5) Notifying special cases. The time and effort traders spend on application procedures and document preparation has been greatly reduced and simplified by putting the exchange of information and documents among authorities online in the form of paperless, electronic attachments. At the end of June 2011, 139 different certification/inspection attachments had been simplified and digitized for electronic transmission, which is about 45% of the total 309 certification/inspection attachments.

The Facile Trade Net (FT-Net) began operating in March 2005 as an e-service for certification/ inspection and Customs clearance. It now links 16 certification/inspection agencies, and as of June 2011, more than 6,100,000 application documents (such as certificates of origin, inspection and quarantine-related documents) have been processed via FT-Net. This stands for more than 98% of all import and export applications, and it has a certification/inspection data accuracy rate of 98%.

The benefits and effects that the Trade Facilitation Plan and FT-Net have achieved are listed as follows;

1. Benefits of simplification: Simplified rules and regulations help reduce inspection time by 50%. (e.g., review of quarantine documents is reduced from 3~7days to 32 hours; animal medicine certificates and permit documents from 12 days to 7 days; plant medicine certificates and permit documents from 14 days to 10 days).



2. Benefits of digitalization: The design of 36 XML standard messages has been completed. Seven common messages, including messages between Customs and certification/inspection agencies have been completed. From Mar. 2005 to June 2011, more than 33.4 million hours have been saved for businesses, certification/inspection agencies and for Customs clearance.

3. Benefits of paperless trading: The direct benefit is that the FT-Net's link with 16 certification/inspection agencies has allowed 97.35% of import/export applications to be transmitted electronically, which has saved NT\$12.89 million pieces of paper (by June 2011). The indirect benefits are that many documents which need manual auditing have been decreased and the cost of storage for paper documentation has been reduced.

Regarding international cooperation on trade facilitation, Chinese Taipei has been pursuing the realization of cross-border paperless trading under APEC framework since 2004. The electronic certificate of origin exchange project between Chinese Taipei and South Korea is recognized as a "Best Practice" by APEC, and the first electronic certificate of origin was successfully transmitted across borders in May 2010. Chinese Taipei continues to promote the project with other economies which have shown interest, such as Thailand, Vietnam and the Philippines, in order to spread the benefits.

Chinese Taipei also takes an active part in AFACT. On November 25, 2010, Chinese Taipei, Japan, Singapore, Malaysia, Iran, Pakistan, and Thailand, initiated the Electronic Certificate of Origin Working Group (e-COO WG) at the AFACT plenary meeting held in Yokohama, Japan. Chinese Taipei also participated in the e-COO WG video conference on March 1, 2011, presenting the status of Chinese Taipei's e-COO progress and sharing its experience with AFACT members. On May 2, 2011, at the AFACT interim meeting held in Kaohsiung, Chinese Taipei invited Pan Asian e-Commerce Alliance (PAA) representatives to join the meeting to share their experiences of e-COO exchange between Chinese Taipei and South Korea and discuss the test plans for e-COO exchange among AFACT member economies.

Ever since "9/11," the whole world has given a high level of attention on how to balance security of global supply chains with trade facilitation. The World Customs Organization (WCO) therefore adopted the Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework) in 2005, and the Authorized Economic Operator (AEO) is one



of the major measures under the SAFE framework to promote supply chain security. Through AEO, business operators can build up secure communication bridges between their supply chain partners, decrease lost cargo rates, late deliveries, and accidents, lower costs from examination of goods, and so on. At present, more than 170 countries are actively participating in the WCO SAFE framework. 30 Enterprises in Chinese Taipei have acquired AEO certification, and the number is estimated to be 50 at the end of the year 2011.



India Progress Report



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



SECTION I - GENERAL CONDITION UPDATE

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

E-Commerce is one of the most exciting spaces for today's global online community. India has crossed 100 million internet users. The internet reach has grown beyond being an enabling communication medium. E-commerce has been a buzz word over the last decade and is likely to grow exponentially year on year. E-commerce is expected to see exponential growth in overall trade market because E-commerce penetration is still quite lower even amongst active internet users who look for information regarding products. As per estimates, in India on an average, these 100 million spend about 16 hours a week online. So, gradually, the conversion ratio of these users, which currently stands at around 40% from being mere on-lookers to having bought any product over internet, could only rise from here.

India's young startup economy is along the global community for the ride. In less than three months of 2011, Indian VCs have already invested over \$50 million in seven E-commerce companies, a 400 percent increase over the same period just last year. A recent report by the Internet and Mobile Association of India (IMAI) reveals that India's E-commerce market is growing at an average rate of 70 percent annually, and has grown over 500 percent in the past three years alone. There are strong reasons for e-commerce to boom in India.

With more than 100 million Internet users, India now has a critical mass of users who are familiar with web services. The growth of small and medium enterprises, foreign direct investment, and India's own powerful multinational corporations have created millions of new jobs and a new generation of globally-minded Indian consumers have been created. These consumers are increasingly turning to E-commerce for consumer products and services. Alternative payment methods such as net-banking etc. are now mandatory offerings for leading e-commerce platforms and can drive as much as 75 percent or more of transactions, and sophisticated technical integrations make the experience seamless. Best practices that have driven E-commerce globally are now a key focus of successful Indian Internet companies, including merchandising, customer service, user interface design, and guaranteed delivery and return policy.

1.2 EC Market size & Growth

As on 31st March 2011 (Source: Telecom Regulatory Authority of India (TRAI))



Total Telephone (wireline+wireless)	846.32 Million
Subscribers	
Urban Subscribers	564.08 Million (66.65%)
Rural Subscribers	282.23 Million (33.35%)
Wireless Subscribers	
Total Wireless Subscribers	811.59 Million
Urban Subscribers	538.05 Million (66.30%)
Rural Subscribers	273.54 Million (33.70%)
Total Wireline Subscriber	
Urban Subscribers	26.04 Million (74.97%)
Rural Subscribers	8.69 Million (25.03%)
Village Public Telephones (VPT)	0.58 Million
Public Call Office (PCO)	3.33 Million

There are 19.67 million Internet subscribers at the end of Mar-11 (which gives more than 100 Million internet users). Apart from this, 381.40 million wireless subscribers have subscribed to Data services, as reported by the wireless service providers.

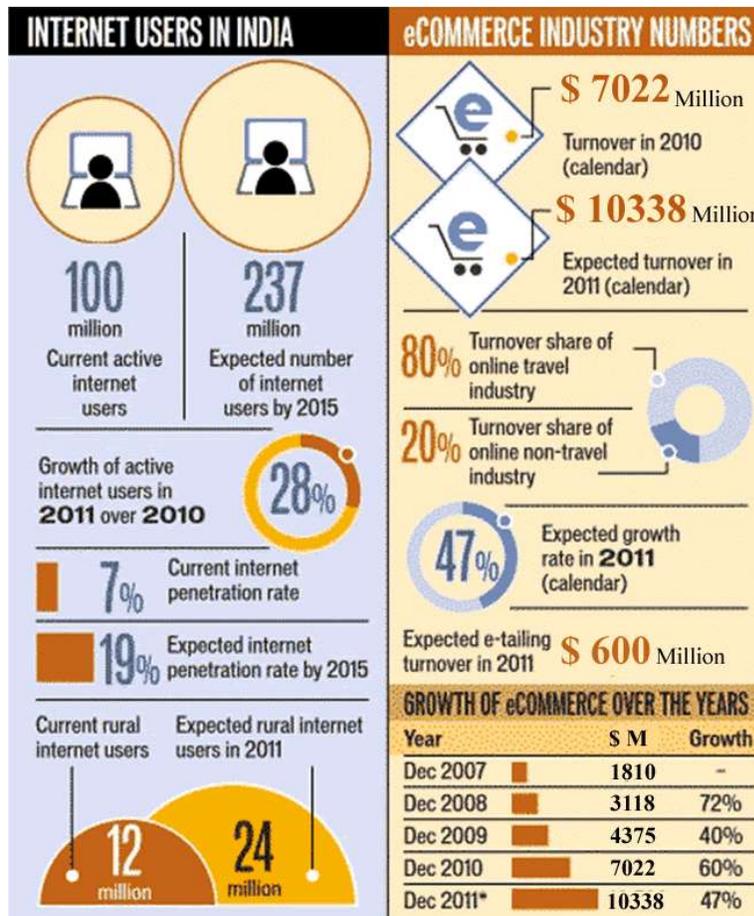
There are 11.89 million Broadband subscribers at the end of Mar-11 registering Y-O-Y growth of 35.49%.

As per National Association of Software and Services Companies (NASSCOM) Indian IT-BPO sector is estimated to aggregate revenues of USD 88.1 billion in FY2011, with the IT software and services sector (excluding hardware) accounting for USD 76.1 billion of revenues. During this period, direct employment is expected to reach nearly 2.5 million, an addition of 240,000 employees, while indirect job creation is estimated at 8.3 million. As a proportion of national GDP, the sector revenues have grown from 1.2 per cent in FY1998 to an estimated 6.4 per cent in FY 2011. Its share of total Indian exports (merchandise plus services)



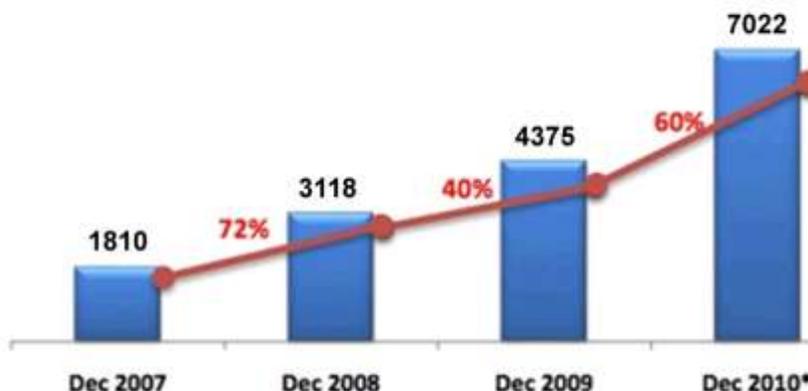
increased from less than 4 per cent in FY1998 to 26 per cent in FY2011. Export revenues are estimated to gross USD 59 billion in FY2011 accounting for a million workforce. Suitably exploiting these emerging opportunities both in the global and domestic markets can help India reach USD 130 billion in IT-BPO revenues by FY2015, a CAGR of 14 per cent. By FY2015, the Indian IT-BPO industry is expected to contribute about 7 per cent to annual GDP and create about 14.3 million employment opportunities (direct and indirect).

According to a report released by IMRB International and Internet Mobile Association of India (IAMAI), the e-commerce market in India is expected to be a 7022 Million \$ valuation by end of 2010. A growth of almost 4 times of the market size back in 2007, the e-commerce industry is picking on the trend of the increasing number of Internet subscribers in India. Clearly the growth in the e-commerce industry has been tremendous with a larger audience accepting the ease of online payments. It is expected to be 10338 Million \$ by 2011 end (calendar year).



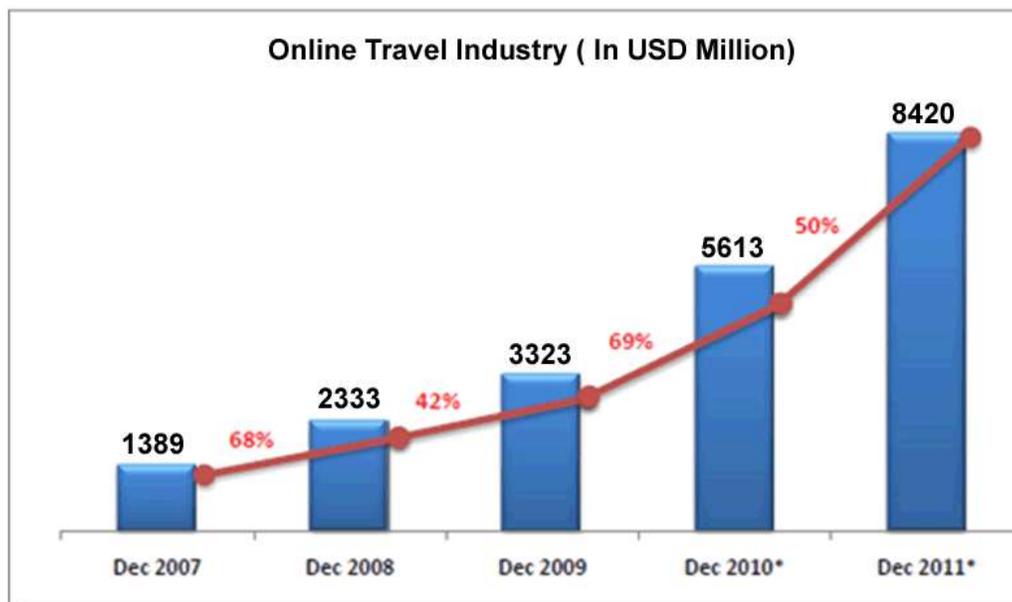


Growth of Net Commerce over the Years (Figures in USD Million)



The e-commerce market is projected to grow to 10338 Million \$ by 2011, which then will be a 400% growth in the last 5 years. The breakup of the market is primarily skewed towards the online travel industry. The online travel industry accounted for 80% of the total E-commerce market in India and remaining 20% share is constituted of non-travel businesses such as eTailing (electronic retailing), digital download, paid content subscription, financial services, online classifieds, etc.

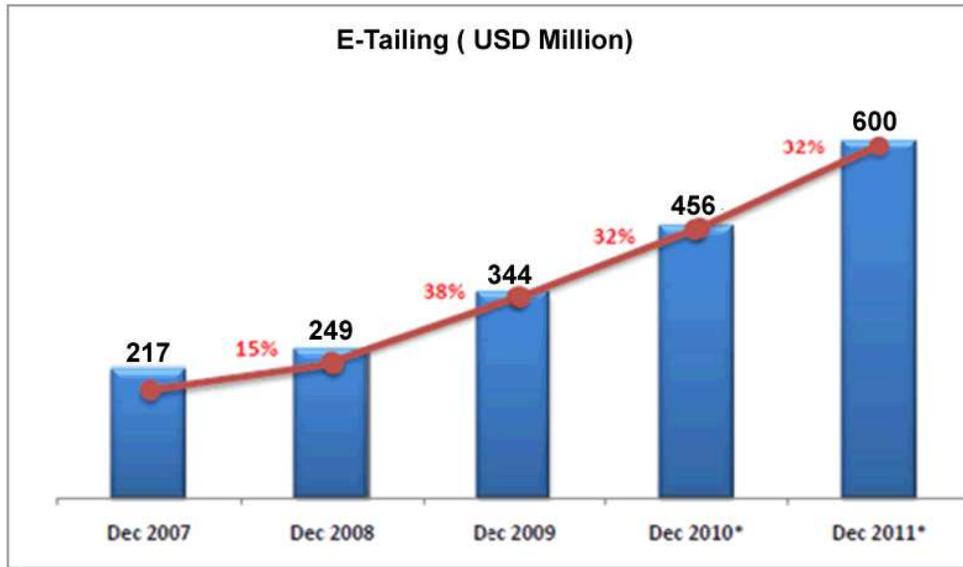
Online Travel Industry (In USD Million)



Within the travel business currently, domestic air travel segment constitutes 63% of online travel industry followed by 28% share from online Railway tickets. The non-travel industry is slowly capturing the market share percent by percent.



The study states that e-Tailing is one of the primary growth drivers and will remain so in the near future too. The growth in the E-commerce sales is a clear indicator of the growing number of people using Internet to make purchases. E-tailing, which comprises buying consumer items including electronic products, home appliances, personal products such as apparels and jewelry and other accessories was worth 456 Million \$ by 2010, and is expected to grow by 32% to 600 Million \$ by end 2011



Another segment that could witness humungous growth opportunity is online financial services including Net Banking, utility bills payment, insurance and other services. The financial service segment was estimated to be worth 444 Million \$ in 2010, but is expected to log 34% growth by Dec 2011.

India has witnessed breathtaking growth in the mobile segment thanks to low-cost smart phones. The digital download segment has grown at the fastest pace of over 50% year on year growth since Dec 2008. Majority of the mobile transactions through Ringtone / Wallpapers / Pictures downloads is said to be worth 31 Million \$.

To the same extent as mobile downloads, even mobile recharge for pre-paid connections or paying post-paid bills forms a significant 34% market share of current digital downloads market size of 151 Million \$.



SECTION II – EDIFACT/ebXML/XML BASED STANDARDS DEVELOPMENT

2.1 Awareness and Education Programs

Department of Information Technology, Government of India, in partnership with NASSCOM, is organizing a series of 50 e-Governance Consultation Workshops in all States and Union Territories during July 2011 to July 2012 under the banner of "Citizen Centric e-Government". The objective is to bring senior decision makers and stakeholders of National e-Governance Programme, State Government Leadership, e-Governance Consultants, Technology Partners and Implementing Agencies eGov Heads on to a common discussion platform. The state level workshops are expected to create a platform for a deeper dialogue and showcasing of best practices and solutions, address issues and challenges and help accelerate e-Governance adoption in the country.

The Broad objectives of the State eGovernance Consultations workshops are:

- Deeper awareness about NeGP initiatives among all stakeholders and line departments in states
- e-Governance initiatives and priorities of the States and showcasing of successful projects
- Discuss challenges in speeding up the delivery of e-Services and state specific issues
- Understanding Emerging technologies and solutions from Industry

2.2 Message Development Activities

The trade regulatory and facilitating agencies of India have implemented web based systems to facilitate the effective and efficient mode of transacting business. Global standards have been integrated in these systems for compatibility like Ports Community System (PCS) Technical Architecture is completely based in Java 2 Platform, Enterprise Edition (J2EE). PCS file formats like XML and EDI (TXT) message structures are designed by adopting various international standards like UN/EDIFACT. Transwork is the one of key components of the Port Community System. It accepts incoming standard formats, like XML, TXT, UN/EDIFACT, etc and translates into other formats such as XML, TXT and UN/EDIFACT etc. Transwork Engine performs the actual translation from one message



format to another.

PCS stakeholders are able to transact and send the information securely and reliably to each other in structured EDI (TXT)/XML/EDIFACT message formats. All the transactions in PCS are highly secure and take place over the HTTPS channel. There is added security provided by PKI – digital certificates and USB token & PCS supports Public Key Infrastructure (PKI), digital signature.

PCS e-Payment Gateway facilitates the integration with payment gateway system of the banks, so that stakeholders can transfer their payments directly through bank and top up their port deposit account. PCS Web Services Gateway (PCSWSG) is used for Web Services and SOA Management. It provides standards based framework for deployment and management of web services. The PCSWSG enables PCS and Ports to provide, secure, govern and manage web services from a centralized place. The PCSWSG a comprehensive SOA governance framework by allowing users to define and manage the policies globally and enforcing them on the services. The PCSWSG makes it possible for Port applications to manage their SOA deployment by tracking and controlling the services with an SOA governance framework, thereby providing more control on the service usage and ensuring the quality of service.

SECTION III – e-READINESS and e-APPLICATION -- eGOVERNMENT/ eBUSINESS 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 organization under Department of Commerce, Ministry of Commerce and Industry engaged in formulation and implementation of the Foreign Trade Policy of the country. All types of authorizations required for export and import are issued by this organization. The interface with trade and industry is through its 36 offices situated through out the country. EC/EDI implementation involves day to day electronic interface with trade and industry and related organizations for electronic delivery of various foreign trade related clearances.

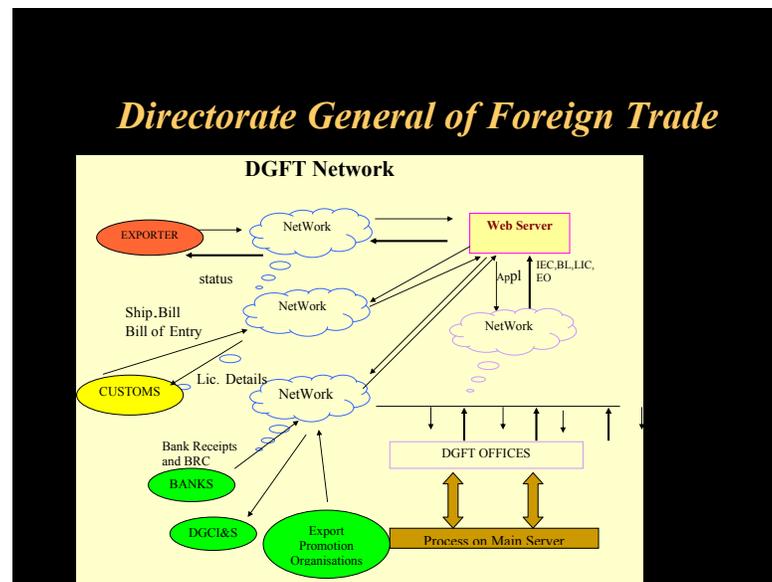
3.1.1.2 Status

DGFT is a core partner in the 'e-trade' network in India. The basic objective



of EDI initiatives is to improve services of DGFT for the user community, through greater transparency of operations and lowering transaction cost and processing time for obtaining authorizations from DGFT.

As an important partner in the 'eTRADE' project, the endeavour is to successfully integrate with all relevant network partners. DGFT has implemented an automated environment for web based electronic filing and provided a retrieval and authentication system of electronic documents based on an agreed protocols and message exchange with its community partners primarily Customs, Banks and Export Promotion Councils, other export promotion bodies at all the 36 Regional Offices of the DGFT. Payment of authorization fee is made through the electronic fund transfer mode (EFT). Digital Signature has been integrated into the authorization application processing. Special initiatives have been taken to secure IT operations of DGFT by installing SSL, firewalls and redesigning the software applications.



Data pertaining to various Export Promotion instruments and foreign trade requirements i.e. Importer Exporter Code, Duty Entitlement Pass Book (DEPB) shipping bills, DEPB scrip, Advance Authorizations and Export Promotion Capital Goods Scheme (EPCG) Authorizations is being exchanged electronically with Customs. This has obviated the need for verification of Authorizations before allowing import / export clearance thus ensuring seamless connectivity. The message exchange system with Customs is being extended to cover all remaining categories of shipping Bills relating to different export promotion schemes.



Impact of EDI Usage

At present, about 200,000 authorizations constituting about 99% of the total authorizations issued every year are processed on line in an EDI environment. The enhanced usage of EDI has significantly reduced the processing time from about 2 weeks to 24 hours. It is estimated that the impact of EDI implementation schemes of DGFT would reduce the incidence of transaction cost by about US\$ 500 million i.e. 0.25% of country's exports.

Up Scaling EDI Operations Key Initiatives

EDI operations in DGFT have reached a stage of stability and now requires further consolidation and expansion. The organization is now taking active steps to become the most digital friendly organization. The scope and domain of the EDI network is being broadened by new initiatives and innovative improvisation which include;

- Coverage of new areas and schemes for EDI operations and integrating with additional network partners. These include Export Promotion Councils for Exporter registration certificates and electronic Bank Realization Certificates.
- Inclusion of additional service providers for EFT and digital signatures to provide choice and flexibility to user community, so that the quality of services improve at competitive prices.
- EDI technology is being strategically leveraged to reengineer the trade processes to remove inherent process redundancies so that transaction cost and time can be reduced. Key EDI initiatives which can have a significant impact on transaction cost are included in a comprehensive transaction cost report released by the Government in February 2011.
- To import stability and system endurance, initiatives like disaster recovery site, software redundancies, prompt resolution of data errors through dedicated helpdesks, improving systems online response time by providing offline data facility for voluminous data and users in remote locations have been taken.
- Along with the electronic interface with the trade and industry, the internal work flow in the organization is also being reengineered and made paperless by maximizing the usage of digitally signed



communications so that entire process cycle becomes digitally friendly for a seamless integration.

3.1.2 Indian Customs EDI Gateway (ICEGATE)

3.1.2.1 Nature of Project

ICEGATE (Indian Customs EDI Gateway) is the e-Commerce gateway portal of the Central Board of Excise & Customs (CBEC), Govt. of India. It is the single point of contact for the external world to interact with the Customs core EDI Application, ICES (Indian Customs EDI System). ICEGATE portal (URL -<http://icegate.gov.in/>) services are widely used by the people collectively called Trade Partners which includes Importers/ Exporters/ Shipping lines/ Shipping Agents/ Airlines/ Air Cargo Agents/ Air Cargo Custodians/ Train Operators/ Inland Cargo Depot Custodians/ Container Freight Station Custodians / Commercial Banks. There are a number of Government agencies also using ICEGATE services, who require Import/ Export data for various purposes, for important regulatory and trade facilitation functions.

ICEGATE implementation of the CBEC is not only beneficial to trade, but is useful for the Government, distinguishing it from other projects. The ICEGATE implementation has made Customs ready for 24X7 working as it provides ease and flexibility to trade in document filing 24X7 basis, for any Customs location, from anywhere using multiple communication modes and multiple EDI language formats. Some of the unique features of the project are as follows:

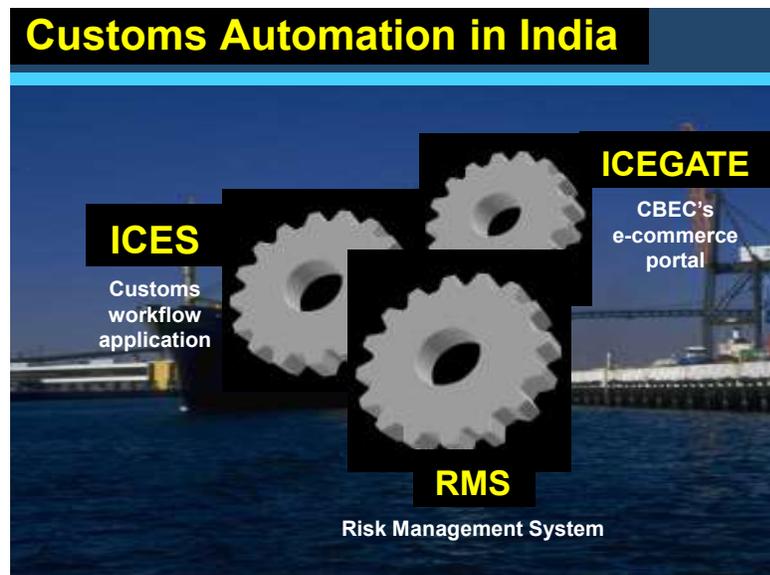
- ICEGATE is single window for document filing and message exchange with Trade Partners for ICES. It provides online registration of Trade Partner with facility to file document and message exchange with acknowledgement.
- It brings about 15 different categories of stakeholders on common electronic platform and their data Integration with Customs through messages despite each having its own different system.
- It is meeting data needs of various Govt Agencies across ministries seamlessly
- ICEGATE provides complete real time tracking of the documents not only at ICEGATE/ICES end but their status vis-a-vis message exchange with trade partner.
- ICEGATE also caters to automated electronic communication with the banks for duty collection and export incentive disbursement through messages.



- ICEGATE also facilitates e-Payment of Customs duty for EXIM trade.
- It also undertakes automated electronic communication with Import/ Export Licensing Authority of India (DGFT) for exchange of completed Exports Declaration Data and corresponding Import/ Export License data and its integration with ICES so as to make it available for all the Customs ports operating in EDI.
- 83% of the Customs import/ export declarations are filed in Customs directly through ICEGATE, whereas remaining 17% filed through service centre are also handled by ICEGATE.
- The services at ICEGATE are free of charge and contribute significantly towards the transaction cost reduction in EXIM trade.

3.1.2.2 Status

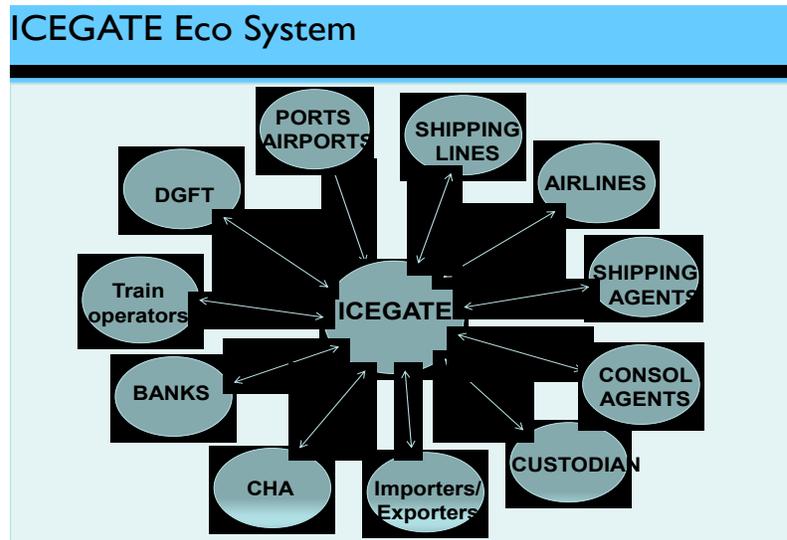
Indian Customs EDI, as it stands today, consists of three distinct applications developed as independent projects – ICES, ICEGATE and RMS project. ICES (Indian Customs EDI System) is the core customs clearance system on which Customs officers work. The ICES system is integrated with the external world through ICEGATE (Indian Customs EDI Gateway), the e-commerce portal of the CBEC. The RMS (Risk Management System) application, on the other hand operates in close coordination with ICES application to facilitate the compliant trade as well as to identify the non compliant Customs Goods Declarations based on risk rules for selective intervention of Customs officers for detailed assessment and examination. The inter-relationship amongst the three Customs application is depicted graphically in Fig. below:



The three gears in Customs automation in India



A schematic diagram of the Customs eco system depicting the interaction of Customs through ICEGATE with its Trade Partners is as follows:



Services available on ICEGATE

The ICEGATE upgrade project provides a number of services which are briefly explained below:

- The services available on the ICEGATE are broadly of three types - Transactional Services, Web Based Tracking Services, Regulatory / Reporting Services.
- 100 types of messages are being exchanged with various EDI Trading partners as of today. Based on the nature and origin of messages, they can be further clubbed into B2C (Business to Customs), C2B (Customs to Business), C2C (Customs to Customs) and C2G (Customs to Government) nature services.
- Transactional services include filing of custom documents such as Bill of Entry, Shipping Bill, IGM, EGM, CGM, SGM etc. and their subsequent amendments, supplementary documents etc. These also include the Custom Duty payment messages to the bank and the reverse messages from the Bank for Custom Duty payment.
- Regulatory/Reporting Services involve the Data Exchange of Customs department with other Government Agencies as well as agencies of Customs department who are involved in regulation of trade or compilation of statistics such as DGFT, DGCI&S, RBI etc.
- The summary of activities of various Trading Partners interacting with ICEGATE for Transactional and Regulatory/ Reporting services electronically is as given below.



Sr. No.	EDI trading partner	Nature of information exchanged through ICEGATE
1	Importers/ Exporters/ CHA	Import/Export Goods Declaration and related messages. Registration for IPR Application
2	Airlines / Shipping Lines/ Shipping Agents	Cargo manifests (such as IGM, CGM, SGM, EGM etc.) and cargo logistics related messages filing.
3	Custodians(Airport / Port Authorities / ICD & CFS)	Cargo logistics messages such as import/ export goods arrival at the port, container arrival, stuffing of goods in container messages, warehousing of goods related messages, import goods release after duty payment message, Export General Manifest message after export of goods etc.
4	Transport Agencies (such as CONCOR, GRFL etc.)	Messages for carrying goods to and from Inland Customs Depots, Container Freight Stations etc.
5	Banks	Financial messages – duty drawback disbursal and Customs Duty payment; e-payment
6	DGFT	Import/ Export Goods License authorizations issued, Export Declarations corresponding to these licenses
7	RBI	Daily Import/Export Goods clearance data and Forex. Remittance data
8	DGCI&S	Daily exchange of Foreign Trade statistics
9	Ministry of Steel	Daily exchange of Import/ Export Goods clearance data in respect of Steel Products
10	Directorate of Valuation	Exchange of Customs Valuation data which acts as decision support system for the Customs officers in assessment of Import/ Export Goods.
11	Directorate of Revenue Intelligence	Daily Import/Export Goods clearance data

- All the above paper based interactions listed in the Table-I in the form of documents have been converted into electronic documents/ messages and filed through ICEGATE.
- Real Time Web Based Tracking Services are broadly of two types –

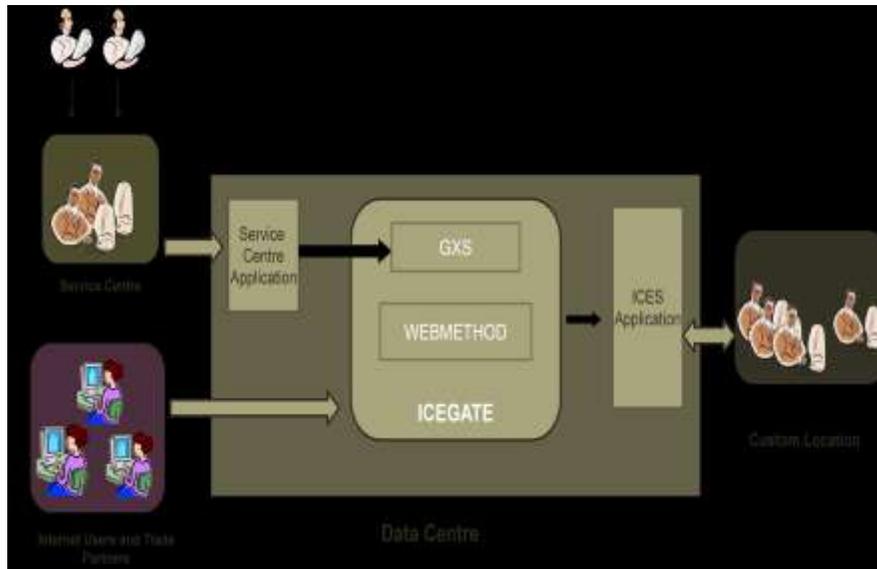


providing status of documents filed electronically at the ICEGATE/ICES and status of data exchange/transaction relating to Trade Partners of customs. Broadly, there are 15 types of tracking services available on which the Trade Partners depend heavily for seeking the information.

- Some Trade Partners, who have very small scale of operations, have been provided with options like web form and RES (Remote EDI Software) which are hosted on ICEGATE/provided to the Trade for readymade usage.
- The ICEGATE Website also owns and hosts other relevant information like the Codes and Directories to be used for messaging and also the messaging guidelines for the preparation of the messages.
- The ICEGATE provides multiple channels of service delivery. It provides three different EDI language options i.e. proprietary flat file message suitable to ICES, XML and UNEDIFACT in which the documents can be prepared and submitted at the ICEGATE while ICEGATE translates these files and inserts the information into Customs EDI. The document can be filed through multiple means of communication using internet such as SMTP (e-mail attachment), Web upload and File Transfer Protocol.
- A 24X7 Helpdesk is also operated by ICEGATE to address the Trade Partner needs for information.

ICEGATE software architecture

The ICEGATE application follows three tiers architecture at its Data Centre. The web site interacting with trade partners is hosted on the web server which is in public zone. The ICEGATE application is hosted in DMZ (De-Militarized Zone) while the Customs Database with which ICEGATE Application interacts lies in MZ (Militarized Zone). The ICEGATE Data Centre implementation also follows Zoning and separation of environments into test environment, pre production environment and production environment. There is Segregation of responsibilities in the entire IT implementation viz. the application team, the maintenance team, server implementation team, and the security & audit team are all different and have their distinct responsibilities.



ICEGATE Architecture vis-à-vis Customs EDI

The Architectural diagram of ICEGATE is as per Fig #3, above. In fact, by placing the ICEGATE application in between the ICES and other Trade Partners, a significant security feature has been introduced in Customs EDI in as much as no one else other than the Customs officers has access to the ICES database.

Hardware Used and security features in Project

The CBEC at its Data Centre is using Enterprise class servers in High Availability mode. The details of technology stack are as given below. The Data Base is in synchronous replication at a nearby site called Business Continuity Process Site, while the third site having data replication i.e. Disaster Recovery site is located far away in different seismic zone. All three sites are having MPLS based Network connectivity. Strong emphasis has been laid by the Directorate of Systems, CBEC on information security and ISO 27001 standards have been adopted in entire Data Centre implementation. The CBEC has been awarded ISO 27001 certification after rigorous audit. Further, ITIL (IT Infrastructure Library) standard for IT governance have been adopted at ICEGATE by CBEC for Incident management, Change management, Configuration management etc.



Technology Stack

Component	Technology
SERVERS	HP Itanium superdomes, X 86
STORAGE	EMC
DATABASE	Oracle 10g for OLTP
APPLICATION TOOLS	WEBMETHOD , GXS
SECURITY	IDS, IPS, FCS, AVG, Firewalls
EMS	HP Openview suite

Impact of ICEGATE

ICEGATE portal provides host of end to end services for Customs EDI to its Trade Partners making the Customs clearance of import/ export goods transparent as well as efficient leading to substantial reduction of transaction costs. These services include electronic filing of Bills of Entry (Import Goods Declaration); Shipping Bills (Export Goods Declaration); Cargo Manifest declarations such as Import General Manifest (IGM), Export General Manifest (EGM) etc.; and Customs Duty Payment in the form of electronic messages for Customs clearance over the internet. ICEGATE is a critical application in as much as 12.55 Million documents filed in 2010-11 i.e. almost 83% of all imports/ exports documents are filed in ICES through ICEGATE. It also provides e-payment facility for Customs Duty payment as well as electronic disbursement of export incentives such as Duty Drawback in any bank account of the exporter across India. In 2010-11, Customs duty amounting to US\$ 600 Million was collected through e-Payment facility on ICEGATE. The ICEGATE accepts documents for any Customs Location in EDI on 'anywhere - any time' basis. ICEGATE services are now operational at 97 major customs locations handling nearly 98% of India's International trade in terms of import and export trade volumes.

Besides transactional services, ICEGATE also provides real time document tracking facilities for the Trade Partners. Data is also exchanged with various other regulatory and licensing agencies in other ministries of Gov. of India such as Director General of Foreign Trade (DGFT), Reserve Bank of India (RBI), Ministry of Steel and Directorate General of Commercial Intelligence & Statistics (DGCI&S). The National Import



database (NIDB) and Export Commodity Database (ECDB) for Customs Department are also being serviced through ICEGATE. All the services on ICEGATE are free of charge. The target beneficiaries of ICEGATE include 0.67 Million importers/ exporters, 9000 Customs House Agents, 10000 CBEC officers, and about 800 institutional Trade Partners. Acceptability of the ICEGATE can be gauged from the fact that the portal receives 7.49 Million hits per day and expected to cross about 2000 billion hits in 2011-12. The entire Customs IT Infrastructure including ICEGATE has been implemented keeping in mind unforeseen disaster. Besides Primary Data Centre, it has a Business Continuity Process as well as Disaster Recovery sites as part of architecture. The Project has been audited by Department of Information Technology (DIT), Government of India during ISO 27001 certification of the IT Consolidation Project of Directorate General of Systems. ICEGATE was also awarded Gold Award in the Best Government Portal category for 2011 by the Government of India.

The services, as discussed above, are critical for customs as well as other Stake Holders/Trading Partners also. The criticality of the operations is further evident from the statistics given below indicating usage of system and its adoption by various agencies post deployment of the ICEGATE upgrade project:

3.2 Port sector

3.2.1 Port Community System (PCS)

3.2.1.1 Nature of Project

India is a major maritime nation by virtue of its long coast line of around 7517 Kms on the western and eastern shelves of the mainland and also along the islands, bejeweled with 13 major and 176 non-major ports, strategically located on the world's shipping routes, its long tradition of seafaring with a large pool of trained maritime personnel, and its dynamic and rapidly globalizing economy with a vast potential to expand its participation in trade and development.





The Project 'Centralized Web Based-Port Community System(PCS) has been implemented at all 12 Major Ports and now it is being extended to non-major ports of India.

Centralized Web Based -Port Community System (PCS) is an initiative by Indian Ports Association (IPA) at the instance of Ministry of Shipping, GOI is intended to integrate the economic flow of trade related documents/information and function as the centralized hub for all the ports of India and the other stakeholders like Shipping lines/Agents container Agents, Surveyors, Stevedores, Banks, Container Freight Stations, Custom House agents, Importers, Exporters, Railways/CONCOR, Government regulatory agencies etc. for exchanging electronic messages in secure manner.

The main objectives of the PCS are –

- Develop a Centralized Web Based application, which act as SINGLE WINDOW for the Port Community Members/stakeholders to exchange message electronically in secure fashion
- Reduce transaction time and cost in port business
- Achieve paperless regime in port sector
- Implementation of an e-commerce portal for port community
- Data repository for research and analysis
-

Apart from achieving the objectives, the following benefits are also derived:-

- Common information to multiple agencies
- Standardization of information exchanged
- Convenience 24x7 submission
- Timely Alert on e-mail during exception
- Online request and payment for services
- Management information system for reporting

3.2.1.2 Status

The PCS has been operationalised and went LIVE on 31/12/2007 for the first phase consisting of 31 messages covering Vessel and Container related messages among Major Ports(12) and Shipping/Container Agents and lines, Container Freight Station (CFS) and Custom House Agents (CHA).



The second phase covering Transport and Cargo related messages went LIVE on 31-3-2008. And subsequently Finance (Assessment) related messages and e-payment module went LIVE with Banks namely HDFC Bank, ICICI Bank, , IDBI, AXIS, Union Bank of India, Indian Bank, Allahabad Bank, Corporation Bank, IOB, PNB, Andhra Bank and Syndicate Bank. Additional stakeholders viz. CONCOR/Railways/ Private Rail Operators, Banks and Stevedores are covered in it.

The Final phase covering Mercantile Marine Department (MMD) related messages also went LIVE and connectivity with Customs established and exchange of messages made LIVE.

Data Center for PCS application has been commissioned at NICSI Data center, Delhi and Data Recovery Center at NIC DC, Hyderabad in IPA servers

New URL www.indianpcs.gov.in has been introduced and started operational from 6th September 2010

Initiatives have already been taken to cover non-major ports under the ambit of PCS. Non-Major ports namely Mundra, Pipavav and Dehaj have been migrated under the ambit of PCS. Efforts are being made to bring other non-major ports also under the ambit of PCS.

Enhancement of Productivity and improvement in Efficiency

Around 1 million messages are being exchanged every month through PCS. The system is capable of accepting messages in various formats including EDIFACT, XML etc.

Case Study after implementation of PCS: Stakeholder: Kolkata Port Trust (KDS)

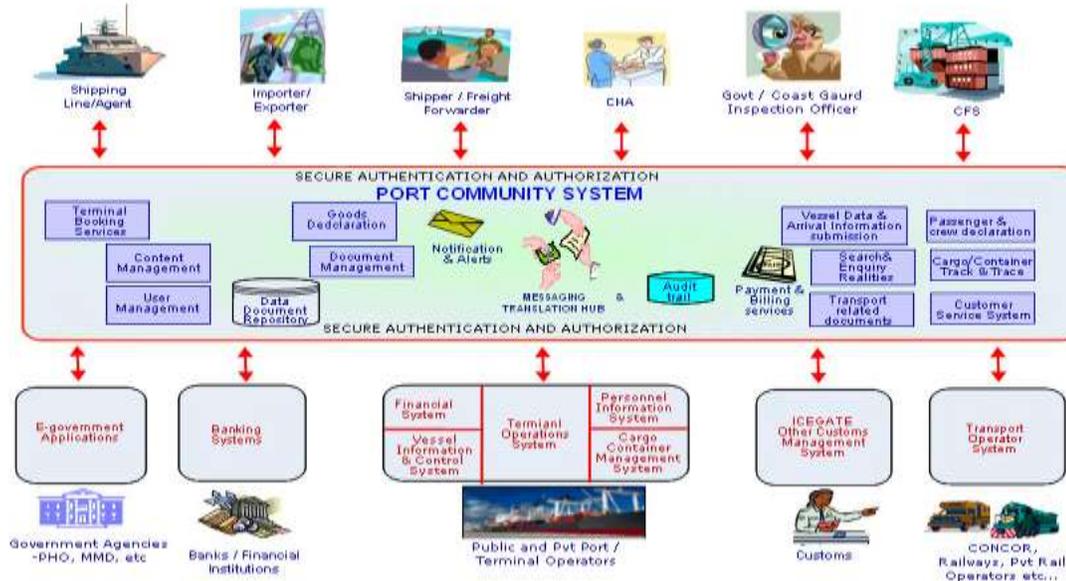
Messages	Time taken before PCS implementation	Take taken after PCS implementation	Remarks
Vessel Profile (submission and Approval)	2 days (48 Hrs)	Average 1-2 Hrs	In many cases it is immediate
Voyage Registration and VCN Allocation	2 days (48 Hrs)	Average 1-2 Hrs	
Berth Request and Berth Allocation	Next day in the berthing meeting	Immediate without any manual intervention	
Container Related Messages	Physical Submission	All the documents are submitted by the Users for their office and these are uploaded in the system with very less time	



Cargo Related Messages - Delivery Orders	5-6 Hrs	ONLINE within 1 Hrs of submission	
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PCS is a comprehensive, highly secure extensible and scalable solution that meets the requirements of the trade community, Ports, Banks and Government Agencies and seamlessly integrates them over the internet coordinating all the activities in and around Port and beyond.

Primary outcome of the PCS is to achieve excellent level of enterprise integration for different players across different ports, thereby increasing the business value for all the players in the Port Community.

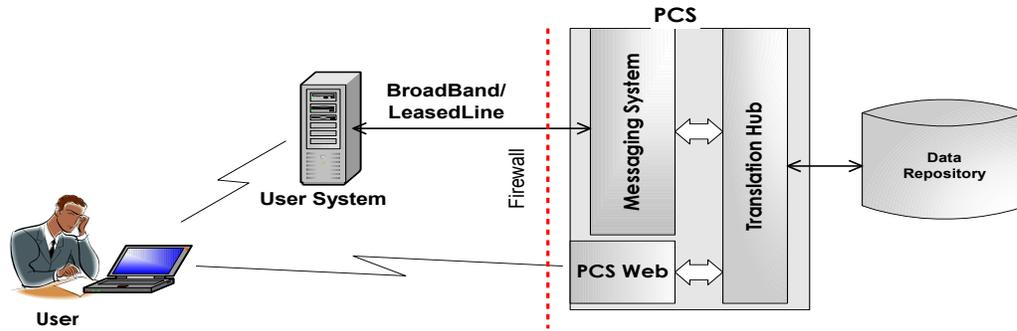


(Fig: Sea Ports Community System)

The implementation of PCS in India transforms Indian Ports from traditional Ports to modern Ports by bringing in a paperless regime. It minimizes transaction time and cost to Indian export-import trade. Contribution of PCS to Indian trade, though not quantifiable in exact terms, will definitely herald new chapter in India by way of e-trade. However, it is expected to reduce a transaction cost at ports and empowered Indian Ports to join the premier league of international technology advanced e-ports.

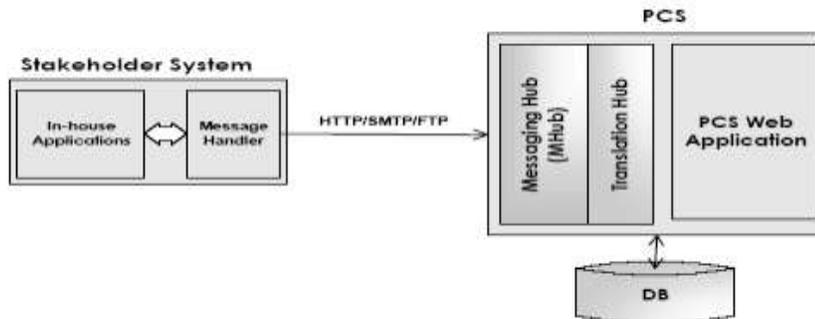
Interfacing mechanism

The Port Users and different stakeholders interact with Port Community System either by using the PCS Message Hub or through the PCS single window web application (called PCS Web) via PCS Portal directly.



System interfacing workflow

Clients (Stakeholders) need to have a Message Handler in their system to send or receive the messages from/to PCS as shown in the diagram below. This Message Handler can be a software program developed in-house, an application module part of in-house system or a third party messaging client for the gateway they choose for interfacing with MHub.



E-payment Module

PCS e-payment is developed in Java & J2EE Technology. It is developed as a component that can be integrated with any e-commerce application irrespective of the technology used by them.



3.3 Air Sector

3.3.1 Nature of Project

The project is to transact business electronically among the Air Cargo Industry stake holders and the same has been implemented in three phases. The community partners in Air sector facilitates EC/EDI based processing into the clearance of export and import consignments.

It has three main components:

- Customs EDI message exchange system with air sector custodians
- Bar code implementation
- WEB based Airport Community System.

The messages originated at Customs end are integrated at Custodian end for Import and Export Cargo processing. Under the Web/EDI implementation, all Cargo handling agencies and Airlines are associated and a web based Cargo Community System is developed by Airports Authority of India (AAI) to transact cargo processing between these partners thereby furthering the concept of paperless transactions. Barcode integration has been done for instant data capturing and online updation of import and export cargo at various processing stages without manual intervention.

3.3.2 Status

EDI message exchange system with air custodians

The Indian customs department has discontinued the Indian Customs Excise System (ICES 1.0) in August 2010 and started ICES 1.5 version system in September 2010. The ICES 1.5 is a centralized web based



system. AAI started exchanging the messages with customs on test basis during the Dec. 2010. Delhi International Airport Ltd (DIAL) also started testing during this period. Both custodians started production level message exchange from January 2011.

The list of few messages which are being exchanged with custodians are as follows:-

EXPORT MESSAGES		IMPORT MESSAGES	
1.	Shipping bill message	1.	IGM message
2.	Goods arrival message	2.	Bill of entry message
3.	Let export message	3.	Out of charge message
		4.	ATA message

The Customs is developing following messages for data exchange with the Custodian(s):

EXPORT MESSAGES		IMPORT MESSAGES	
1.	EGM message	1.	Examination message
2.	Cargo withdrawal		

The EDI Message status trend at airports is given hereunder:

Airport – KOLKATA		July 2011
IGM messages		
•	Received in less than 2 hours of flight arrival	58.51%
AWB messages		3710
BOE messages		5110
Out of Charge messages		4713

Airport – Mumbai		July 2011
IGM messages		
•	Received in less than 2 hours of flight arrival	85%
AWB messages		46539
BOE messages		43302
Out of Charge messages		43826

Airport – Delhi		July 2011
IGM messages		
•	Received in less than 2 hours of flight arrival	79%
BOE messages		98%
Out of Charge messages		98%



Emerging airports/custodians

Some Custodian(s) in Air sector in India are in the state of developing their information technology infrastructure for initiating EDI message exchange with Customs. Following is the list of such emerging Custodian(s) which are under implementation of EDI:

- Kerala State Industrial Enterprises Ltd. (KSIE) at Trivandrum & Calicut
- Cochin International Airport Ltd. (CIAL) at Cochin
- The Rajasthan Small Industries Corporation Ltd. (RAJSICO) at Jaipur
- Central Warehousing Corporation (CWC) at Amritsar & Goa
- Gujarat State Export Corporation (GSEC) at Ahamedabad & Indore

Bar code implementation

Bar Code implementation has been started at few airports. Airlines have been advised to use Bar coded labels to facilitate cargo processing.

Web based airports community system (plans ahead)

At present Web based cargo operations related functions are being undertaken through their respective Web portals by Airports Authority of India(AAI) for AAI managed airports (presently catering to Chennai & Kolkata), Delhi International Airport Pvt. Ltd. (DIAL) & Mumbai International Airport Pvt. Ltd. (MIAL). All cargo related online transactions are executed based on EDI messages received from Customs. The web based transactions include Issuance of Export Carting Order, Export Terminal Charges Receipt, Import Deliver Order by Airlines / Break Bulk Agents, Import Terminal Charges Receipts, Import & Export Cargo tracking query, Cargo Warehouse charges calculator.

The development of an integrated Airport Community System (ACS) will be taken up in the next phase after making Web based user interface system under ICES 1.5 version fully operational at all Airports. AAI is gearing up to development and implement the Airport Community System for the stake holders (Airlines, Freight Forwarders, Custodians, CHAs, Importers & Exports and all other Air Cargo sector Trade partners). The proposed integrated Airport Community system envisages user friendly one point interface for flow of EDI messages and tracking / query related issues with single USERID for any Trade partner / User at any location in India. This will help in tracking / troubleshooting EDI message related information for



Trade / community partners. A common platform will also reduce expenditure for creating I.T. infrastructure by individual custodian(s)

Section IV: Other IT – enabled Service (ITeS) in Trade and Industry Sector

4.1 Peanut.net - Traceability System for Peanut Products

4.1.1 Nature of the Project

Peanut.net is an Internet based Certification and Traceability system to facilitate and monitor the process of certification of Peanut Products and their traceability products up to the processing unit level primarily for their export from India.

Even though the supply chain of Peanut products is quite complex in India with plethora of middlemen's procuring the produce from the mandi and supplying to another middlemen, the system has been restricted to trace only upto the processing unit level and not beyond that.

India's Peanut Export Sector Universe

It is a web-enabled application, hosted in the data center at Agriculture & Processed Food Export Development Authority (APEDA) Head Quarters. The major stakeholders integrated in the traceability system are:

- Indian Oilseeds and Produce Export Promotion Council (IOPEPC)
- Exporters
- APEDA Accredited Laboratories
- APEDA, as the nodal agency

4.1.2 Status

The system was launched on 1st April 2011. All the exporters registered with APEDA/IOPEPC were issued username and passwords to access the system from APEDA's website www.apeda.gov.in.

The first stage is registration of processing units which includes shelling units, grading unit and peanut processing units. The registration is done by authorized official from IOPEPC. The units are registered for a period of 1 year and post that renewal of the units is done without which the units can not be used for sourcing by the exporters.



Registration of Units

- IOPEPC is authorized body to register units operating in Peanut industry. The system facilitates IOPEPC official to enter the details of the units including its name, address and processing capacity and generates a unique number for each units. IOPEPC can also generate the registration certificate through the system and take printout.
- Once the registration is done, the unit is available for exporters to use them for their sourcing details. Post expiry of the registration date, the units can be renewed through the same system.

Consignment Creation

- Only the authorized exporters who are registered with either APEDA or IOPEPC and has a valid RCMC number (Registration cum Membership certificate Number) have been issued a username and password to access the system. The exporter can enter the details of the consignment including unit from where the produce was sourced, quantity, batch no, intended use of the consignment and country to which the produce is being exported. Each consignment has a unique identity.
- Once the consignment is created, exporter enters the packing details and forwards the consignment for Laboratory testing.

Laboratory Testing

- All APEDA accredited labs have been issued username and password to access the system. Labs have to first confirm the receipt of the sample and then enter the sample details. Once the payment for the test has been done, labs enter the test results in the system.
- Based on the MRL values specified by EU, the system automatically detects whether the test has passed or failed. In the latter case, the information is passed to the National Referral Laboratory for further action.

Getting a Certificate of Export

- Any consignment intended to be exported to EU has to be accompanied with a certificate of export issued by IOPEPC.
- The export enters the relevant details and forwards the information to IOPEPC from their interface.
- IOPEPC after validating the submitted information generates a



certificate of export with a unique number.

Getting a Stuffing Certificate

- At the time of stuffing the consignment into the container, authorized official from lab issues a stuffing certificate. The system facilitates exporters in filing application for stuffing certificate which is passed on to the authorized laboratory.
- Laboratory can issue the certificate once the information provided by the exporter is verified.

System accessibility & user convenience

- The software can be easily used - anywhere, anytime, 24 X 7, by all authorized stakeholders, supported by a dedicated call center, with turnaround time of 2 to 10 minutes. All they need to use is a commonly available web browser through their internet connection in a secured environment.
- (URL: <http://apeda.gov.in/apedawebsite/GroundNut/GroundNut.htm>)
- The data structure has been localized by using standard database driven lists for offices of various government organizations and their area of control, districts, taluks, villages, aflatoxin residue limits, etc.,
- Zero paperwork and Zero mistakes
- Completely credible and foolproof
- No certificate can be issued without going through the software.
- It has virtually reduced duplication in data capture and enables instant reference of previous steps in the supply chain.
- The inbuilt checks and balances in the software ensure that the succeeding step can be carried out only if the preceding steps were successfully complied with.
- Finally and most importantly, APEDA can trace details of the consignment right up to the unit level.

How does this system ensure traceability?

Every consignment that is exported from the country is accompanied with a stuffing certificate which is backed by a certificate of export which in turn is backed by a lab certificate. All these certificates carry a unique number generated by the system and are interlinked with each other.

The lab certificate number is linked with the consignment id which has the



batch as well as the unit details from where the produce was sourced.

Statistics

Entity	Numbers
Exporters	16
Processing Units	17
Lab Reports	58
Certificate of export	43
Stuffing Certificates	14

Major Benefits

This system shall result in following major benefits:

- Consolidated database of all registrations and activities related to operators in India, including registration, inspection, production and export details.
- Traceability of any export consignment to the unit in first phase, based on the concerned certificate of export and stuffing certificates.

Key Benefits envisaged for Operators and Certification Bodies

- A simple, user friendly system.
- Data Entry at the point of entry and Minimum data entry.
- Nil or minimum downtime for all applications so that all stakeholders mandatory/necessarily use only the online system for day-to-day transactions.
- The software can be easily used - anywhere, anytime, 24 by 7, by all authorized stakeholders. All they need to use is a commonly available web browser through their internet connection in a secured environment.
- Reduction in duplication of data capture and to enable instant reference of previous steps in the supply chain.
- It has been designed in such a way that no document can be issued without going through the software for critical transactions.
- The inbuilt checks and balances in the software ensure that the succeeding step can be carried out only if the preceding steps were successfully complied with.
- Consolidated reports to be generated by the system itself.



As far as the Government of India is concerned, the following are the major benefits envisaged:

- Ensuring that all the exporters, units and labs follow a uniform practice.
- Consolidation of data at a single location, enabling the Government for analysis as well as effective intervention in case of any complaints as well as removing the feasibility for tampering with the documents / maintained at stakeholders level.
- Finally, helping to build the image of the country as a reliable quality supplier of peanut produce, due to the centralized database of players and supply chain data

Security

The software has been developed using standard software engineering guidelines, with a multi-tier architecture, for development as well as deployment and has the necessary internet application security features built-in as per Open Web Application Security Project (OWASP) standards like Salted MD5, SQL injection, invalid input validation, etc., . It has already been audited by a CERT-IN accredited auditor for compliance with Internet Security requirements and has been found compliant on all critical internet safety standards and requirements.

Briefly, the following are the security implementations that have been carried out in the software system:

- User ID and Passwords are based on authentication mode
- Rights & permission for IT & other users
- Form Level Security
- Field Level Security
- Secure Encryption techniques
- Database security Audit trails/Log file generation
- Stamping of database record with date/time/user/node no. wise information for its last read/write etc.
- Creation and initialization of log file.

Moreover the certificates, though generated by the software, would still be manually signed by the authorized personnel of the Authority and Accredited Laboratory. Further, a fake certificate cannot not be issued by the operator through this system as he has to fulfill a number of linked steps as well as ensure the entire chain of data submission; and in case he issues the certificate outside the system, the same can be checked by any interested and authorized party as the data will be available in the



Peanut.net system for that certificate.

4.2 Government eProcurement System of National Informatics Centre (GePNIC)

4.2.1 Nature of Project

This ICT project is about i) Development/ enhancements/ customization & maintenance of a common generic electronic procurement/ tendering solution for use by various government offices in India; ii) Provisioning for the servers/ backend infrastructure for hosting and 24X7 operation of the solution, with backend support; and iii) Rollout implementations in various state/ central government offices/ departments in a phased manner, with sustainable arrangements for front end training & helpdesk/ handholding support.

The broad scope/ coverage under the project is as follows:

- Development of a user friendly eProcurement solution, suitable for easy adoption by the government procurement agencies; and it's constant evolution/ improvement (horizontally and vertically), maintenance and support.
- Rollout Approach/ methodologies/ plans (for short term and long term), and strategies for funding and sustenance.
- Strategies and efforts for rollout of the system in government departments/ organizations at all levels: Central, States and Public Sector undertakings in stages; with mechanisms for sustainable infrastructure and technical support at the back end and front end.

Functional Scope of NIC's eProcurement System:

The system covers the following business processes as part of the engagement at Buyer end – beginning with mapping of the approved tenders that starts from tender creation, to online publishing of eNIT and tender documents, Pre-bid Conference, Addendum & Corrigendums, Online Bid Submission, Bid Opening & Evaluation (Technical as well as Financial), Award of contract/ Empanelment of one or multiple bidders.

Major functionalities covered are:

- Registration/Enrolment of Government officials (in various roles) and Bidders
- Tender Creation and Publishing (Multiple Packets)



- Publishing of Corrigendum
- Publishing of Pre bid meeting decisions / documents
- Online Bid submission/ resubmission/withdrawal as per the needs (configurable),
- Facility for offline/ online payment (Payment Gateway) of Tender Fee and EMD
- Encryption of bids submitted by the bidders
- Facility for single/two/multi cover bid system
- Online tender opening by designated Officials
- Live bid opening for the bidders
- Automatic evaluation of financial bid
- Facility to update committee recommendations at each stage of tender process
- Award of the contract
- eAuction – Forward and Reverse
- Limited Tender/Expression of Interest(EOI)
- General Technical Evaluation
- Item wise Technical evaluation for goods type of tenders
- Multi currency provision
- Mail and SMS communication to stakeholders at various milestones
- Tender status on different stages of the tender
- Digital signing of all documents which are uploaded
- Comprehensive Report/MIS module

The solution can be configured for use by an organization at its apex level and at multiple subordinate levels, at which tenders could be independently floated/ processed. Bidder categories/ classes are also configurable.

4.2.2 Status

GePNIC solution is generic in nature and can easily be adopted for all kinds of procurement needs such as Goods, Services and Works, by all Government offices in the country. It aims at transparency and non discrimination amongst bidders, by allowing free access to tender documents, clarifications. It also enables secure on line bid submission and access to bid opening event to all concerned, from any place on 24 x 7 basis, using the GePNIC system through Internet. The system has been designed taking into account of the tender rules followed in various states and also the periodic guidelines issued from Central Vigilance Commission (CVC) on eProcurement.



The various services that can be availed through different module of GePNIC application software are detailed below:

User Registration:

The stake holders of the system such as the Tender Inviting Authorities & the bidders have to get themselves registered into the system to carry out their procurement activities. Every user is first identified by a unique user id & a password sent to his email, which is followed by registration of his Digital Signature Certificate (DSC) for subsequent authentication every time.

Registration for suppliers/ bidders is free, after which he can participate in all electronically floated tenders. All logins into the system for specific roles/ activities is by two factor authentication using unique user id/ password, followed by DSC login, to ensure that only authorized persons have access to the system for only the activities configured against their roles.

Publishing a tender:

The authorized officials from the Tender Inviting Authority will create the tender documents, from the standard ones and after verification, the tenders will be published into the system. The documents in the system are digitally signed using DSC's and then published. The system allows multi cover tenders, online/offline payment and online/offline bid submission and other important clauses as necessary. Anybody can see the tenders and download the tender documents freely, from the website.

After the tender is published, clarifications from the bidders, one to one, can be provided online by the Tender Inviting Authority (TIA), as necessary. Pre-bid meeting documents can be published after the meeting is over, depending on the needs.

The system also takes care of the publishing of the corrigendum, after the tenders are published, depending on the requirements. The bidders/users concerned are intimated over email on these corrigenda to take necessary action as the case may be.

Bid Submission:

Bidders, after registration into the system, can update and keep ready



uploaded in advance, all their important non-sensitive reference documents (usually asked to submit again and again with each tender), in his specifically allocated MY SPACE area, thus avoiding duplication of manual work every time.

Bidders get ready the documents along with the fee payments and submit them online within the submission end time. The fee payment is permitted either by online or offline as per the details indicated in the tender. The bidder can claim EMD exemption as applicable. The bid documents submitted, after digitally signing, gets encrypted using the bid openers key and updated into the system, thereby ensuring that nobody opens it, before the tender opening time. The non-sensitive documents are selected during bid submission and stored into the system without encryption. The bidder gets acknowledgement after the successful submission of the bid into the system.

The bidder can resubmit the bid any number of times if permitted in the tender. Bidder can withdraw the bid if he decides later point of time. The bidder can submit the manual bid, if allowed in the tender, and registration is compulsory in this case.

Tender Opening Event:

The bids submitted for a tender, are opened online by the authorized bid openers of 2/3 officials once the time is reached. The bid documents encrypted earlier, are decrypted and opened one by one along with the non-sensitive documents if available, and then evaluated, printed, signed and submitted to the committee for technical evaluation purposes. After online bids are opened, the manual bids if any, are opened and then updated into the system. The bid opening committee updates its recommendations which can be seen by the bidders online under tender status.

With single cover system, all the bid parts are opened in the first instance itself.

Evaluation of Technical Bids:

The technical committee goes through the technical bids and based on the recommendations, the results are updated into the system, on the selection



of the bidders, the member details, the date of financial bid opening and the report of the recommendation. The concerned bidders get intimation by mail on their selection. There is no automatic technical evaluation built in right now into the system and the decision of the committee is final and binding. The bidders can see the recommendations under tender status.

Financial bid Opening Event:

At this stage, only the technically qualified bids of the bidders for the tender, are opened online again by the authorised bid openers of 2/3 officials once the time is reached. The price bid documents encrypted earlier, are decrypted and opened one by one, evaluated, printed, signed and then submitted to the committee for financial evaluation purposes. After online price bids are opened, the manual bids, if any, are opened, converted into xls form & then updated into the system. The system generates a comparative statement of the price bids for evaluation by the committee. The recommendation of the bid opening committee is updated, which can be seen by the bidders online under tender status.

Evaluation of Financial Bids:

The financial committee goes through the price bids & the comparative chart and based on the recommendations, the results are updated into the system, on the selection of the bidders, the member details, and the report of the recommendation. The concerned bidders get intimation by mail on their selection. There is no automatic financial evaluation built into the system and the decision of the committee is final and binding. The bidders can see the recommendations under tender status.

Award of the Contract:

The TIA, based on the recommendations of the financial evaluation committee, and after getting approval, prepares the order manually and then updates the order along with the contract details. The bidder is informed by mail about the award of the contract. In addition, the bidders can see the Award of the contract under tender status and also against results of the tender option in the tender site.

The GePNIC application also facilitates limited tenders, general technical evaluation, item wise technical evaluation, multicurrency option, and online bid opening view by the bidders remotely



Technology Used:

Software:

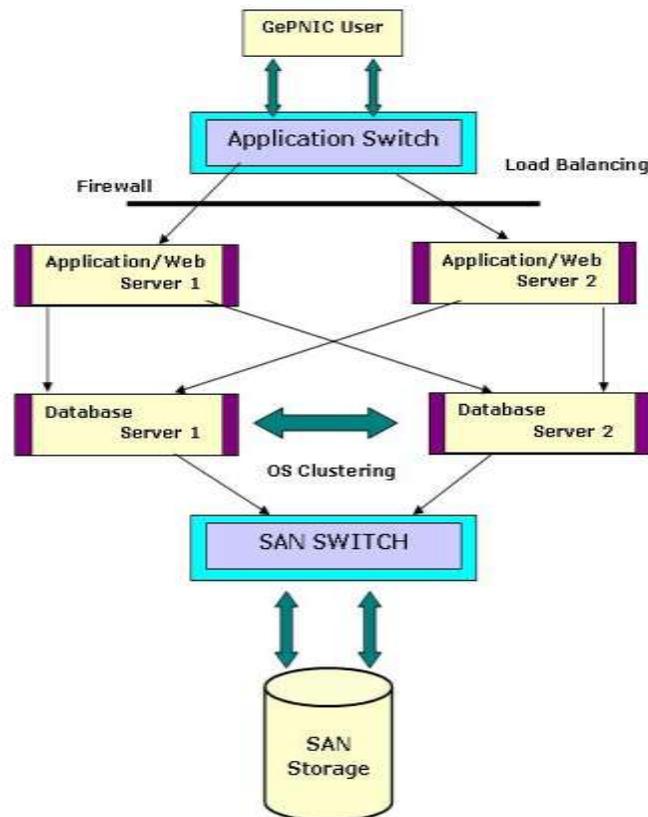
The GePNIC application has been developed as a generic product to serve most common eTendering requirements, using Open Source Tools, specifically Linux, J2EE, Apache Tomcat & PostgreSQL and adheres to open standards. It has been designed using Tapestry Framework and Data Base connectivity is using Hibernate Technology.

The GePNIC eProcurement application can be accessed using any major browsers available for windows or Linux.

Hardware:

The GePNIC application requires minimum of four servers at the primary data centre and at least two at the Disaster Recovery Centre. Out of the four servers at the primary, two are to act as web/application servers with load balancing through an Application Switch and two others act as Database servers. The four servers work in a clustered environment.

The Hardware deployment architecture is shown below:



Hardware deployment architecture



Security Aspects and Use of Digital Certificates (DSC):

The System provides for quite high level of security and secrecy for different stages of functionality to match the requirements. Security is implemented for both, at the level of content as well as transactions. For utmost bid security on the electronic portal, the system will receive the digitally encrypted/signed and electronically hashed/ sealed bids in Time Stamped & Locked Electronic Tender Boxes (ESTBs) having high security, where it is not possible to open these ESTBs till the specified time has elapsed, even when all the authorized committee members properly login for opening the same.

The Digital Certificates (for signature & encryption) are an integral part of the entire eTendering process in the system. They are required for both, the Buyers i.e Government officials and the Suppliers/ bidders; to ensure security of transactions, user authentication, as well as authenticity & secrecy of documents published/ submitted through the eProcurement system. The system works with all DSCs being issued by different certifying agencies authorized by CCA India.

Following security features are built in as integral part of the system: -

- Proper authentication and non repudiation at all levels for all users interacting with the system, through the Use of legally valid class of Digital Signature Certificates as per IT Act 2000.
- Time stamping of all critical events
- 128-bit encryption with Secure Socket Layer (SSL) security for all data moving between any client and the server.
- Access to sensitive contents such as price bids is based on proper authorization and authentication of identity as well as the role/ privilege available at that time.
- Roles/Privilege allocations are such that it ensures only authorized personnel performing only the assigned tasks, during the decided time frame.
- Complete compliance to the IT Act 2000 for legal sanctity.
- Security Audit certificate from the CERT-IN recommended certified auditors
- Two factor authentication with Digital Signatures
- Bid-encryption at Client end itself, using PKI/ hybrid technologies.
- Encryption of user-passwords and other sensitive data/ field values.
- Multiple Bid Openers need to be configured. Minimum two and a Maximum of three Bid Openers.
- Audit trail of each activity/ processing. Archival of data as per Government rules.
- Replication of data & backup facility.



Integration with Bank Payment Gateway

The eProcurement application system facilitates the integration of online payment gateway with all banks providing Internet banking to collect the payments such as Tender Fee, EMD fee etc. This facility will enhance better payment services to the contractors.

Salient features:

- Widest possible reach and enhanced Transparency
- Role based Access to the system with Two factor Authentication
- Adherence to IT ACT 2000
- Compliance with procurement guidelines of Central Vigilance Commission (CVC), Asian Development Bank and World Bank.
- Accessibility of Information at all stages to all parties from any place on 24 x 7 basis
- Ensures full security, secrecy and authenticity of vital Data during transactions, transportation, storage, processing/ usage and archival stages, with proper audit trail.
- User friendly generic software easily adaptable to varied requirements.
- Security Audited by two independent agencies.

Current Status:

Among the first states adopting GePNIC solution were Tamil Nadu and Orissa, which has been using the solution extensively for almost all their procurements since last two and half years. By now, NIC has implemented its GePNIC eTendering solution in 7 States (covering several departments in each) and 3 other Government organizations, during the past two and half years. So far more than 68,132 tenders have been published worth a value of Rs. 97,217.16 Crores (Rs. 972.17 billion). Other states/ government entities having successfully adopted and implemented this solution are: West Bengal, Haryana, Uttar Pradesh, Chandigarh UT, PWD Punjab, as well as some other public sector organizations, like: Mahanadi Coalfields Limited (MCL) in Orissa, Vishakhapatnam Port Trust (VPT) etc. At the central government level, GePNIC has been implemented for all procurements under Pradhan Mantri Gramin Sadak Yojana (PMGSY) of M/o Rural Development in 21 states of the country, including some from the northeast region.



Following are the key benefits of using the system:

- Fast and efficient process, significantly reduces the procurement cycle time.
- Introduces transparency at each stage. The system captures the justification and comments of Approving Authorities at each stage and thereby enables Approving Authorities associated with the transaction to justify their decision.
- Encryption ensures secrecy and integrity of the bids submitted.
- Promotes Open Competition
- Reduction in the cost of doing business for suppliers which in turn induces reduction in prices quoted by the bidders.
- Significant reduction in paper work and its consumption.
- With increased bid responses, need for retendering has come down.
- It is observed that the number of Legal Issues raised in respect of tendering activities, when processed electronically, have come down because of the enhanced transparency in the system.

Achievements & Impact:

Till date, NIC's GePNIC eTendering solution has successfully been implemented in offices/ departments of nine state governments, like: Tamil Nadu, Orissa, West Bengal, Chandigarh UT, Delhi, Uttar Pradesh etc and three other government organizations/ PSUs, namely Mahanadi Coalfields Limited (MCL), Vizag Port Trust (VPT) and Indian Oil Co. Ltd (IOCL) during the past two and half years. Apart from these, under PMGSY Scheme of central ministry, almost 21 states have implemented the solution for their works procurements in respect of construction of rural roads.

So far more than 68,132 tenders have been published worth a value of Rs. 97,217.16 Crores (Rs. 972.17 billion). The GePNIC solution is being adopted by more and more government organizations year to year, and with planned rollout of the system in ten more states during the 1st phase and 13 more in 2nd phase of the Mission Mode Project of Government of India, the system would become integral to government procurement in almost every state.



S No	State / Organization	Number of Tenders	Value (in Rs. Billions)
1	Orissa	31292	475.41
2	Tamil Nadu	12447	60.76
3	West Bengal	6269	70.47
4	Chandigarh UT	4900	25.46
5	MCL	3550	33.32
6	PMGSY	3491	159.37
7	NCT of Delhi	1917	5.52
8	Punjab PWD	1467	27.22
9	Uttar Pradesh	1359	46.83
10	Haryana	1004	56.67
11	Vizag Port Trust	232	4.06
12	Jharkhand	114	5.98
13	NICSI	81	0.01
14	Himachal Pradesh	8	1.10
15	IOCL	1	0.00
TOTAL		68132	972.17



Iran Progress Report

Ministry of Industry, Mine, and Trade
Deputy for IT and eCommerce Development



SECTION I - GENERAL CONDITION UPDATE

Today applications of information & communication technology have influenced mostly all aspects of our lives & eCommerce & eBusiness solutions have been used so widely that we can hardly ignore them.

eBusiness solutions have made revolutionary impacts in rendering services & those governments or sectors which use these solutions gain competitive advantages which can be hardly gained by competitors without introducing eservices.

Today almost all Governments in different sectors of the world have developed & prepared comprehensive eCommerce/IT or ICT plans and are on different stage of implementing those plans.

Based on the mentioned plans, governments at one side try to develop necessary infrastructures for implementing eCommerce & eBusiness solutions in terms of eGovernment services & also implement eGovernment projects and on the other side try to encourage the society to use the new rendered eGovernment services.

To seek the above objectives better, Ministry of Commerce in Iran decided to create a new deputy Ministry focusing on the issues related to the IT and Ecommerce development.

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

EDIFACT/ebXML is now are in use in some of the Iranian Public/Private companies like shipline companies, Banking, Automotives. These companies use their data massaging in ebXML/XML formats.

2.1 Trade Single Window Project

Single Window is as the best solution in countries who like to decrease the procedure time in the administration works. Fortunately this important issue is well understands by decision makers in countries and they have started doing actions in implementing Single Window in their countries.

Iran fortunately has made its decision to fully implement the Single Window and in this regards the government has allocated a division in the Ministry of Industry, Mines and Trade that is responsible to fully implement Single Window in the country. The following actions are done so far:



- ❖ The necessary laws and rules are approved by respective public divisions (Such as Iran Parliament, ...)
- ❖ The necessary committees/working groups are constituted in related organizations like customs, banks, ...
- ❖ The implementation steps are defined for respective groups

National Projects including Single window, port community system, and so on are some of the outcomes of these efforts which have been proposed by Iran Government agencies.

The infrastructure for exchanging trade documents as an infrastructure for trade Single Window

Services:

- ❖ Connecting the electronic commerce in the entire supply chain
- ❖ A tool for transforming electronic documents based on national/international standards
- ❖ Data storage and archiving of electronic documents

Advantages:

- ❖ eliminate the information gap among agencies and facilitate electronic commerce, especially for SMEs
- ❖ Reduce IT costs through the creation of digital platform shared among different enterprises
- ❖ No need to change existing systems to comply with the requirements for electronic document exchange
- ❖ eliminate the information gap among agencies and facilitate electronic commerce, especially for SMEs
- ❖ Require a minimum investment of financial and human resources for the SMEs to enter the electronic supply chain
- ❖ Savings in time and no delay in transactions between the firms
- ❖ Lack of concern for the loss of information
- ❖ Minimum interference in the internal activities of firms

Carpet portal

- ❖ A pilot project in order to conduct Single Window in the carpet industry to facilitate its export has already started.
- ❖ Implementation phase has already started since March 2011



By implementation the above project, one of the services which is expected from Single Window will be tested practically and then the pilot can be extended to other international trade services.

2.2 eProcurement System

The system has three main phases. In the first phase it is possible to buy small government needs including goods,... In the second phase it includes the governmental tenders. And in the last phase the procedure for buying services which are need in governmental sectors will be added to the system.

18 Ministries so far have received eSignature for related buyers and the required training courses also have implemented to the users.

The fully implementation of the system will save 34% of management costs, decrease the total number of requests around 48% and finally decrease the ordering and administrative time by 50%.

It is predicted that fully implementing of the system will last until the end of May 2012.

Electronic exchange System for trade documents

Although many plans are made by Ministry of Commerce, Port Organization and Customs of Iran for implementing Single Window and total port system, but Electronic exchange of the customs declaration and its appendixes, for transit processes, import and export are now by physical forms and a national operator network is going to be implemented for value added services of electronic exchanges of trade documents/information.

This project now is in the first phase and based on PPP model is invested by private sector.

2.3 National Market Framework

Organizing virtual stores in the country

In this project the following actions have already been taken:

- ❖ Approving the law of organization the virtual stores
- ❖ Identify the current state of virtual stores
- ❖ Design the processes for licensing virtual stores which no need to the owner attendance



- ❖ Design a trust symbol for web sites
- ❖ Issuing temporary work permits for virtual stores

Future plans are as follows:

- ❖ Kick off the portable for e-trust symbol of virtual stores
- ❖ Construction and implementation e-trust symbol system

2.4 National portal for exchange of goods and services (EKALA)

The aim of this portal (<http://www.ekala.ir>) is to provide a network for better supply of goods that can be used by everyone in the country. This portal can also introduce the suppliers.

In this portal, individuals can access to the information of goods, suppliers and store centers

The objectives of this system include:

- ❖ This portal as a comprehensive portal for goods and services, cover all commercial transactions of goods and services in accordance with the latest standards and internal requirements.
- ❖ Online resolving of users needs for buy/sell.
- ❖ General and special Information release in the trade relevant areas to the users.
- ❖ Cost reductions (costs related to the order of the goods and the cost related to the post sell services)
- ❖ Providing the following options for selecting of goods such as:
 - Possibility to record an order within a few days
 - Possibility to configuring the product and ability to know the real price for the consumers
 - Easy to order goods or services
 - Ability to compare between multiple vendor products
 - Ability to search the required catalogs

By this new facility it is possible to do online buy/sell and the payment is also online. The marketing of goods and services is also possible through network.

After membership in the network, Users are able to use information (bills of sales, selling goods, buying goods,...) which are included in the website. Accordingly, the classification of certain goods, and related suppliers and sales centers are also introduced to enable users to more easily access their own information.



2.5 Data Matrix technology (Two-dimensional code to connect to the portal with a mobile phone)

This plan is for promoting the information of the goods and is based on Iran-code standards. The aim of this plan is to increase value added services of Iran-code to its stakeholders. In this project, the two-dimensional data matrix symbol installed on electronic products can be used to view e-catalog on a mobile browser. This can be done only by using a cell phone equipped with a with 2 Mega Pixel camera.



Data matrix Procedures and method of use

- ❖ The buyer needs to receive and install the decryption software on his/her phone.
- ❖ The next step is to run the decryption software and a visual symbol of data matrix
- ❖ The next step is to activate the internet capability of the mobile to see the e-Catalogue. Requesting the Catalogue of goods from Iran-code portal require decryption software and Internet connection to be agreed by Iran-code portal.
- ❖ After submitting the application by the Internet to Iran-code portal, electronic catalog will be sent to the mobile phone which can be seen by mobile browser. Electronic product catalogs, including technical information of the product. It is formatted in a way to be able to display on mobile phones.



2.5.1 Data-bar technologies (barcodes with higher capacity)

One of the common ways to identifying products is to print a code on their packages. There are different ways to print a code on a package. For example, it can be written directly on packaging with a suitable font size. The problem is that in places where the code should be used, it is needed to manually enter the information of the product into the related software. Manual data entry has usually human errors in reading and entering in the applications. More over it has its cost and also consumes the time. Traditionally such a font called "bar code or barcodes" and are well known.

To overcome this barrier, it is better to print the code with a font that can be read by some scanners. This should also have the ability to be automatically read by electronic systems.

Barcodes are different. What is known on the market today as a barcode, is a special standard barcode types which its name is EAN / UPC. Another standard that has been noted recently, is GS1 Data-Bar. Compared with the previous standard Data-bars, i.e. EAN / UPC, these barcodes can display the information in a more limited space.

Using Data-Bars, it is possible to print a 13-digits code in less space, or we are able to add more information in the existent space which EAN / UPC barcodes has occupied. The other information that can be added are price, expiration date, weight, origin, destination, and generally any information that can be supported through standards, GS1 Data-Bar code. Following figure is an example of a sample Data-Bars with some of its properties



Data Bars

- Their length are the same as usual EAN/UPC barcodes but their height are half
- It can display any GTIN
- It can be read from each direction
- It can be used in any sell points which have POS payment system
- It can display a serial number plus a GTIN in the same space of a EAN/UPC
- It is able to display 74 digit or 41 numerical/Alphabetical characters in a row

National Code: -----	Price: -----
GS1 Code: -----	Validity (Date): -----

Example of a databar



2.5.2 Informing Systems for the Members (Preparing information based on the requests)

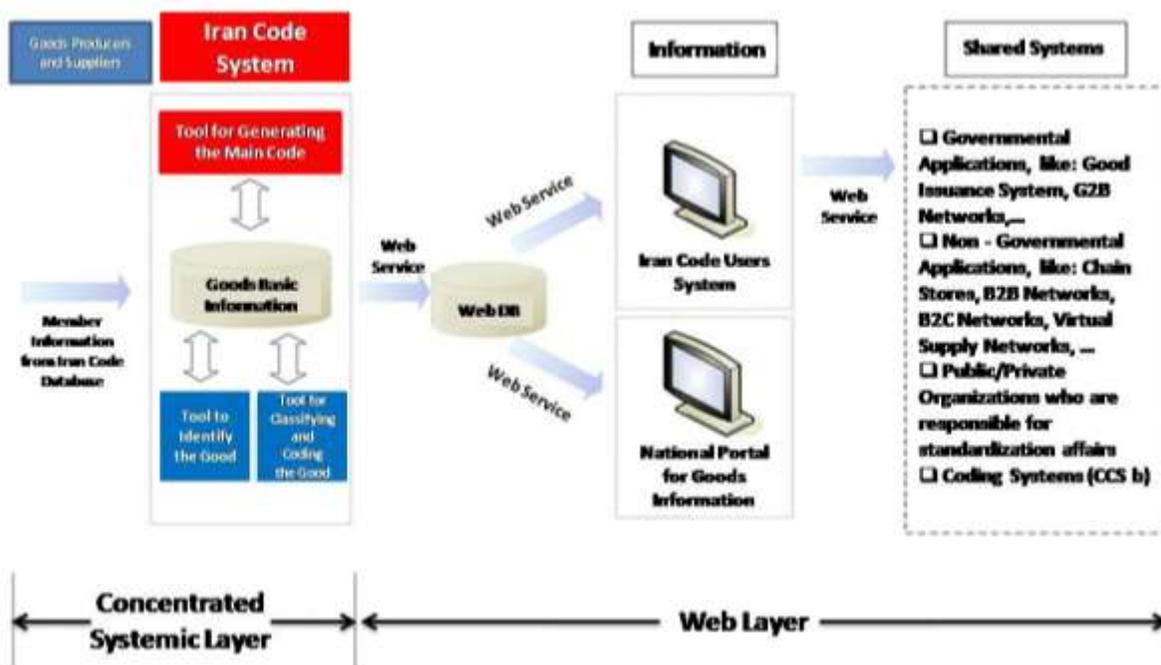
Iran-code portal display general information about products and suppliers whereas the users may need special information based on their need and their special characteristics. For example, a public sector may require all government-issued national codes in the class of food.

The new system is implemented to answer these needs. The system is able to provide the related information regularly in a suitable format. This is possible because Iran-code has already prepared huge amount of information of producers, suppliers in its database. Therefore the users are able to reach to these data base in their proper format.

The system can be used as a data supplier in information systems in other organizations. The following groups can access to the database:

- ❖ Management Information System MIS aims to identify competitors, market study, supplier recognition
- ❖ Information Processing System: TPS, such as POS, store systems, Warehousing

Following figure schematically shows the system with its most important subscribers.



Preparing information based on the requests in Iran-code with the relevant subscribers



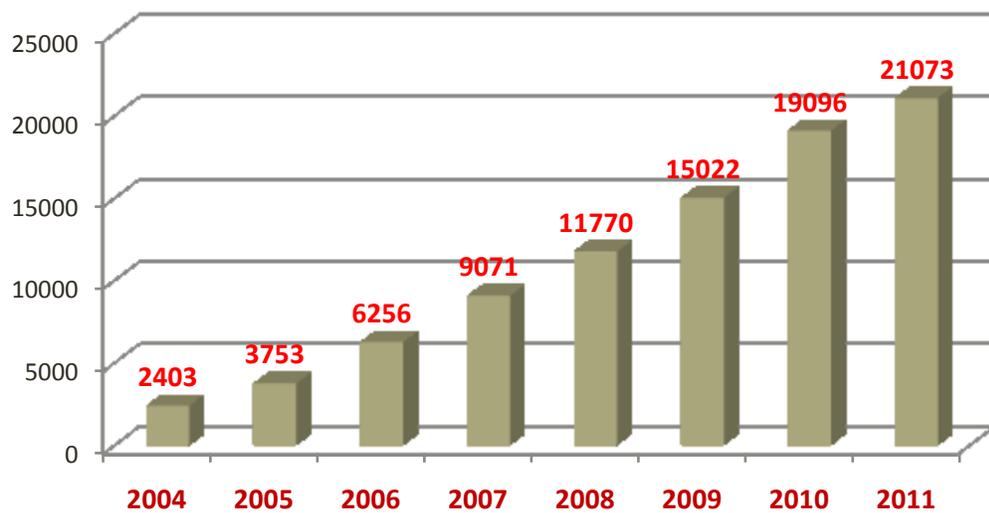
SECTION III – eBanking Readiness

3.1 Internet and public availability - e-Banking

Table1- Development of the ATMs, POS and eBank Cards

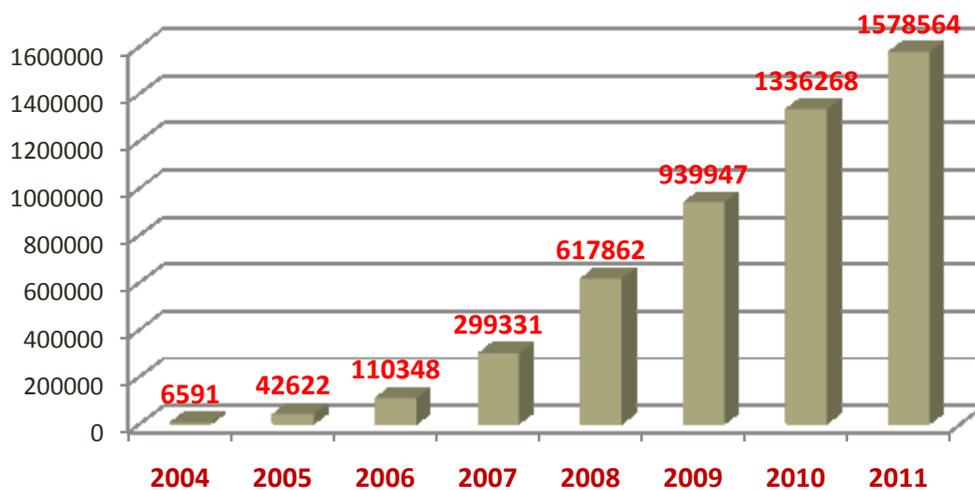
	2011 May	2010 October	2009 October	2008 October	2007 October	2006 October	2005 October	2004 October
ATMs	21073	19096	15022	11770	9071	6256	3753	2403
POS	1578564	1336268	939947	617862	299331	110348	42622	6591
Bank Cards	123316345	107627030	73593060	49742013	29795544	17925418	10798614	5915036

Number of ATMs

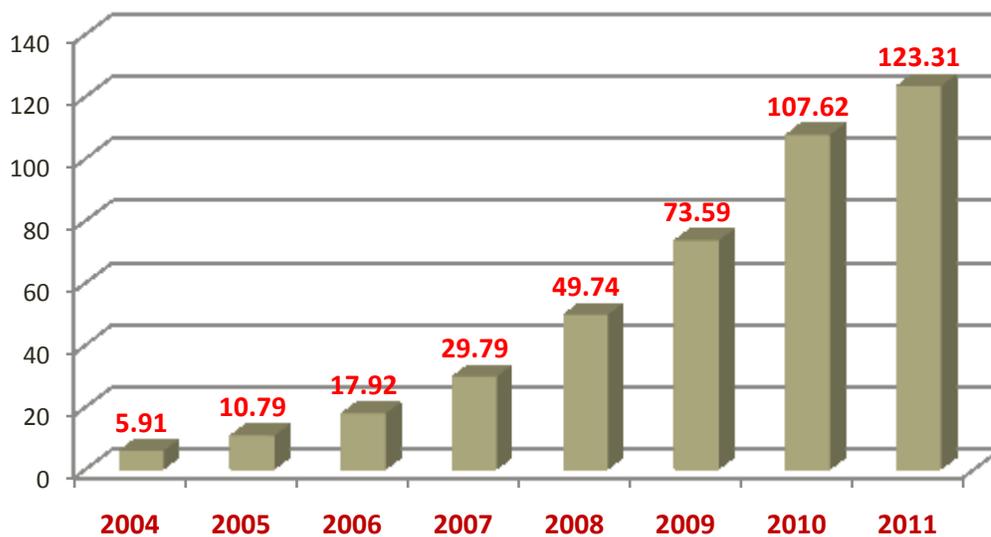




Number of POS



Number of Bank Cards (Milliones)





Japan Progress Report

**Japan Association of
Simplification of International Trade Procedures**



SECTION I - GENERAL CONDITION UPDATE

1.1 Great East Japan Earthquake on March 11, 2011

The greatest earthquake in the modern history of Japan attacked North East coastal area of Japan on March 11, 2011 with tremendous disaster by Tsunami followed by the earthquake, which had killed nearly 20,000 citizens more than 300,000 houses/buildings.

1.1.1 Damages to ICT infrastructure

The earthquake had given the following damages to the ICT infrastructure in that area:

- ✓ One million telephone circuits were interrupted
- ✓ About 29,000 earth stations for mobile phones were stopped
- ✓ Huge scale of telephone traffic congestion hampered the fixed and mobile phone system in Japan

These records show the importance of a contingency planning by the Government in order to minimize the damage to the communication systems, which are essential to manage the state of emergency.

1.1.2 Role and function of ICT infrastructure and mass media

While telephone services and land transportation were interrupted, services by mass-media, i.e. newspapers, television and radio broadcasting services devoted to the disaster information helped the citizens to know the state of emergency. Social media services such as Twitter showed that they can serve real time information to keep the track of victims by the earthquake and tsunami. For the earliest recovery, the followings issues are essential:

- Reach all populations within the community with effective recovery-related public information messaging and communications that are accessible to people with disabilities and people with limited English proficiency, protect the health and safety of the affected population, help manage expectations, and ensure stakeholders have a clear understanding of available assistance and their roles and responsibilities.
- Support affected populations and stakeholders with a system that provides appropriate, current information about any continued assistance, steady state resources for long-term impacts, and monitoring programs in an effective and accessible manner.

1.2 The accident of the Fukushima Dai-ichi Nuclear Power Plant after the earthquake

- After the accident of the Fukushima Dai-ichi Nuclear Power Plant



(NPP), some countries/regions took steps to strengthen inspections and regulations of cargoes imported from Japan.

○ Japan took prompt measures to offer accurate information speedily. The safety of Japanese goods has been confirmed from various viewpoints, and the safety has also been expressly indicated by international organizations. Japan will continue to carry out reliable monitoring and send out the message that Japan is safe and secure to the world.

● Examples of steps taken by foreign countries/companies after the earthquake

and the NPP accident

(1) Foreign countries advising their people to refrain from traveling to Japan and having their people leave from Japan, causing a surge in the number of foreign nationals in Japan leaving the country

(2) Foreign embassies in Tokyo and Japanese bases of foreign companies temporarily closing or transferring their functions

(3) Foreign countries strengthening radioactivity inspections of and regulations of Japan's export items

● Japan's measures

(1) Enhancing monitoring systems within a short term

- Surveying and publishing environmental radioactivity levels in each prefecture

- Measuring radioactivity levels of bulk containers, vessels, air, seawater, etc. at ports and harbors

(2) Confirming safety (Food and agricultural products)

- Setting provisional regulation values for radioactivity in food

- Instructing shipment/intake restrictions for certain areas or items

(Mineral and industrial products)

- Subsidizing fees for radioactivity inspections of export items by government designated inspection agencies

(3) Offering accurate information speedily

- Offering information at high levels (summit or ministerial levels), such as at a Japan-Australia summit meeting

- Holding briefing sessions at organizations located overseas, such as local briefing sessions by JETRO's overseas offices

- Holding briefing sessions to Japanese industry [Held in Tokyo on March 31 (170 participants) and April 28]

- Daily e-mail service to foreign governments, media, experts, etc. [Service started on March 14; a total of about 41,760 messages sent]



1.3 A paradigm shift in the ICT industries: cloud service trends

1.3.1 Market size of cloud services industry

Cloud computing is among the fruits of development of technologies for utilization of the computer resources already existing on networks. Services incorporating cloud computing technology (cloud services) allow users to access computer resources “when they need, in just the amount they need,” and constitute an ICT system utilization method radically different from anything that has gone before and is prompting an ongoing paradigm shift in the ICT sector.

According to the Smart Cloud Study Group Report (2010, MIC), the market size for cloud services is estimated at 390 billion yen as of 2009. The SaaS market makes up a large portion of this amount, accounting for 61.3%.

Estimates for the future cloud service market indicate that by 2015 it will have more than quadrupled in size to 1.81 trillion yen (Figure 1). Also, if support is provided for the widespread adoption of cloud services in government, medical care, education, agriculture, forestry and fisheries, and for the construction of a smart cloud infrastructure, it will be possible to generate a new market worth approximately 560 billion yen by 2015, meaning that the total size of the cloud services market will reach 2.37 trillion yen.

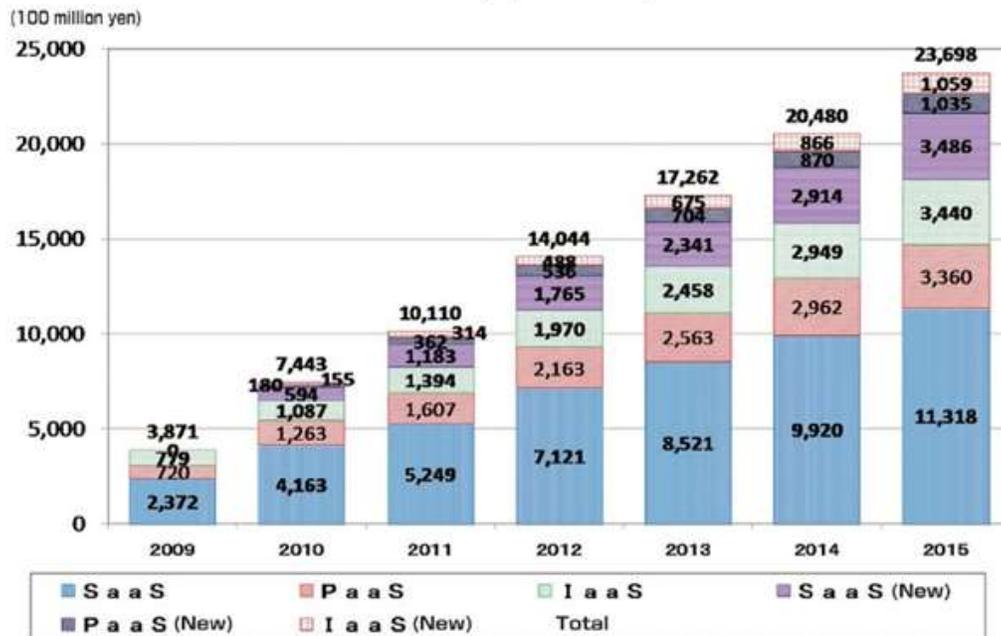


Figure 1: Market size of cloud service industry (Estimated)
 (Source: Smart Cloud Study Group Report 2010 MOIAC)



1.3.2 Inter-industry configuration changes due to the development of cloud services

Figure 2 compares industry in 2008 and as projected in 2020, using the 2008 Inter-Industry Table and an RAS¹ Growth Projection for 2020 to which the projected cloud service market has been added, and shows how the ICT industry will be positioned in the inter-industry configuration in 2020 using the “index of power dispersion” and “Index of sensitivity dispersion.”²

The “index of power dispersion” is an index of comparison of the amount of production (or of added value) generated in all sectors by the production activities of one sector when there is one unit of demand in said sector.³ Meanwhile the “Index of sensitivity dispersion” is, conversely, an index of comparison of the amount of production (or of added value) generated in one particular sector by the production activities of all sectors when there is one unit of demand in each sector.⁴

¹ The RAS method is a means of estimating input coefficients of inter-industry tables, and works by distributing the differences between known product outputs and the sums of the rows of the present intermediate matrix proportionally along the rows and then to distribute the differences between known industry outputs and the sums of the columns proportionally along the columns.

² An interim output table (transaction values) for 2020 is produced based on the input coefficients estimated using the RAS method, and adding the interim input for the size of the cloud services market (estimated) in 2020

³ If a large amount of assets and services are input from the production activities of relevant fields (that is, if the interim input rate is high), it is easy to gauge large figures

⁴ If there is a high rate of use in fields other than the relevant field (that is, if the input coefficients for other fields are high), it is easy to gauge large figures

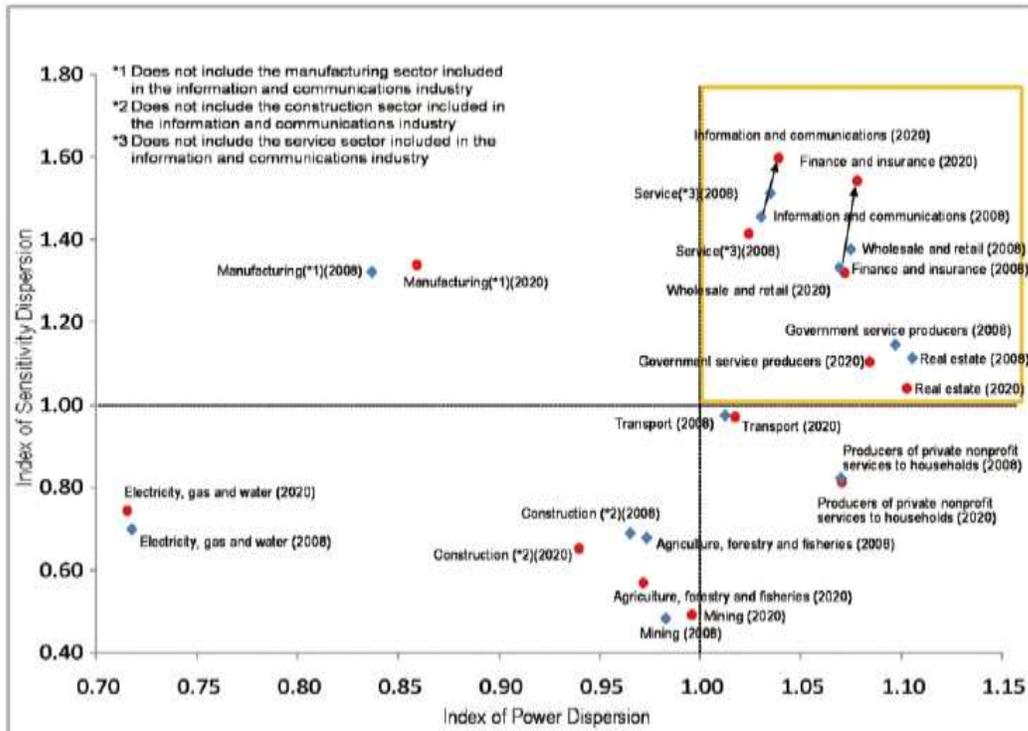


Figure 2 (Source: Survey of Economic Analysis on ICT 2010 by MOIAC)

This means that industrial sectors in the “first quadrant” (where both index of power dispersion and Index of sensitivity dispersion have average values of 1 or over) are industries that play a vital role in the linked structure. In this comparison, the ICT industry is the only one to be in the first quadrant both by added value base and by production base and to be trending higher in value, and it is safe to say that this industry will continue to exert a major presence in the future as well.

With the progress of cloud services, the ICT industry will absorb aspects of other sectors and will also feed on the growth of other sectors, making the industry an indispensable engine of sustainable economic growth for Japan.

1.3.3 The broadband internet proliferation in Japan facilitating cloud services

OECD statistics shows that Japan has been leading the broadband market in respect of fiber connection service ratio and their economical price, the lowest one in the world

(See Figure 3 and Figure 4). However, as to the usage of internet, Korea is leading in the world (See Table 1)

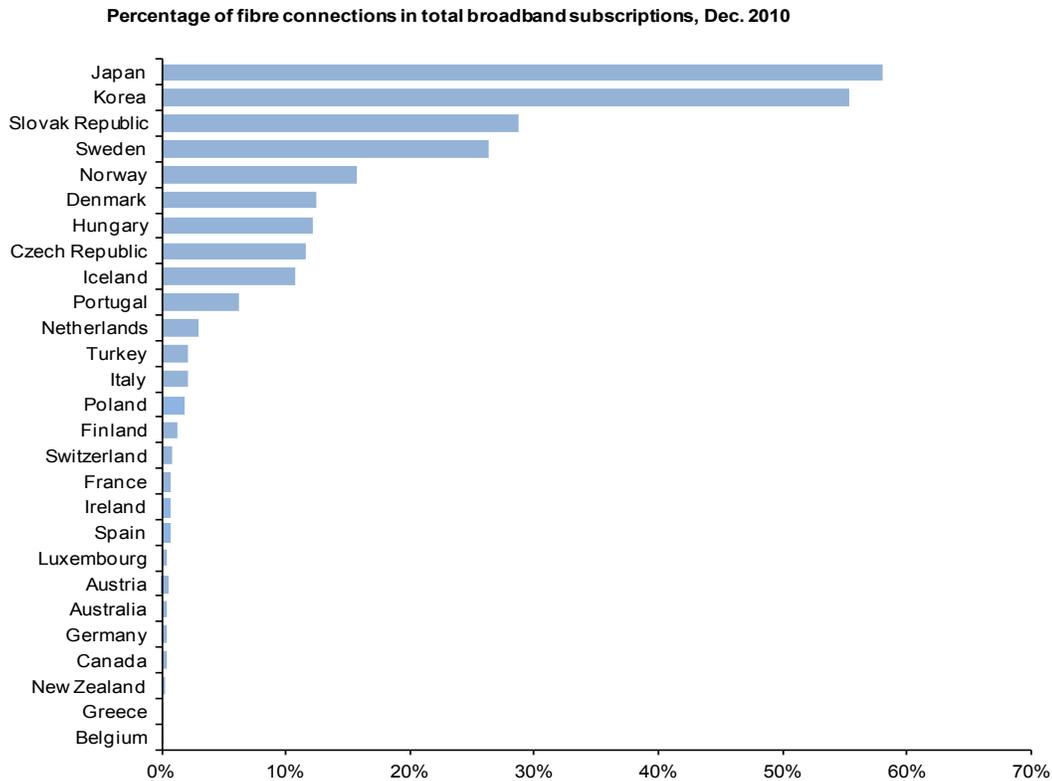


Figure 3 (Source: OECD

Average monthly subscription price for connections faster than 45 Mbps advertised download speed (For speeds above 45 Mbps, September 2010, USD PPP, including line charge)

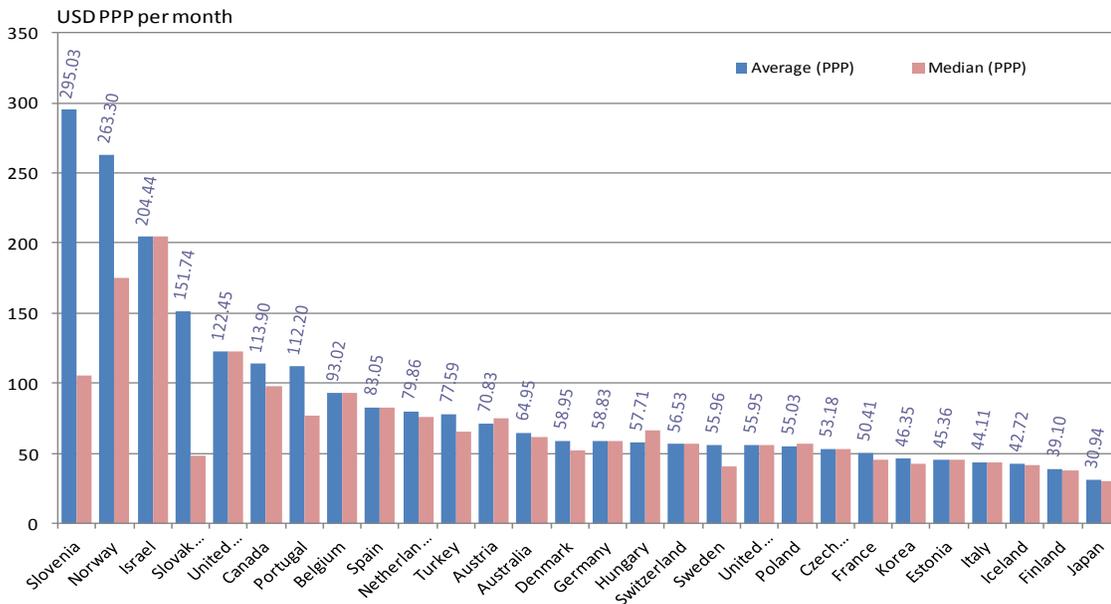


Figure 4 (Source OECD)



Internet users ranking by broad band users per 100 inhabitants

	<i>Internet Users</i>		<i>Broad band users</i>	
	<i>per 100 inhab.</i>	<i>2010</i>	<i>per 100 inhabitants</i>	<i>2010</i>
1 Switzerland	83.90	38.16		
2 Netherlands	90.72	37.97		
3 Denmark	88.72	37.38		
4 Korea (Rep.)	83.70	36.63		
5 Iceland	95.00	34.65		
6 Norway	93.39	34.60		
7 France	80.10	33.92		
8 Luxembourg	90.62	32.83		
9 Germany	81.85	31.59		
10 Sweden	90.00	31.59		
11 Belgium	79.26	31.49		
12 United Kingdom	85.00	31.38		
13 Hong Kong, China	69.40	30.16		
14 Canada	81.60	29.81		
15 Finland	86.89	29.07		
16 Japan	80.00	26.91		
17 United States	79.00	26.34		
18 Israel	67.20	25.14		
19 New Zealand	83.00	24.93		
20 Singapore	70.00	24.72		
21 Slovenia	70.00	24.39		
22 Estonia	74.10	24.34		
23 Macao, China	56.80	24.14		
24 Austria	72.70	23.85		
25 Australia	76.00	23.19		
26 Spain	66.53	22.96		
27 Ireland	69.85	22.82		
28 Chinese Taipei	71.50	22.68		

Table 1 (Source: ITU (ICT Statistics))

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 JEDIC (Japan Electronic Data Interchange Council)

In 2010, JEDIC has conducted the survey on the EDI status for 41 industry associations in Japan. The result says that 83.5% of the companies implemented EDI in general average. However, those companies less than one (1) Billion Japanese Yen (about US\$12.5



million) the ratio decreases to 45.3%. The share of EDIFACT is only 8.6%, as domestic standards are preferred by the major industries in Japan, except for the automobile industry which had implemented UN/EDIFACT.

2.2 Supply Chain Network Analysis

In 2011, Japan had a disastrous Earthquake and Tsunami. After the tragedy, we have found the broken network in manufacturing supply chain. For managing supply chain, especially for Automobile industry and Electronics industry, JEDIC has started the study for Network risk analysis on supply chain for manufacturing industry.

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. JEDIC 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 Enterprises, JEDIC developed Cross Industry EDI Specification for Automobile, Electronics and Chemical industries based on UN/CEFACT Core Component Library.

2.4 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 (SLH) Information Projects. SLH Information Process project and SLH Travel Product Information Process project have completed the standardization process and the relevant outputs are now standardized in the UN/CEFACT Forum. SLH Reservation Information Process project is now on the process of the standardization to be completed by the spring of 2012.

In 2010 TT&L WG of AFACT was set up at the meeting in Yokohama. In



order to cooperate with the WG, the AFACT TT&L JAPAN WG was established in June 2011 in UN/CEFACT Japan Committee and 7 meetings are scheduled in FY 2011.

SECTION III – eGovernment/ eBusiness RELATED PROJECT UPDATES

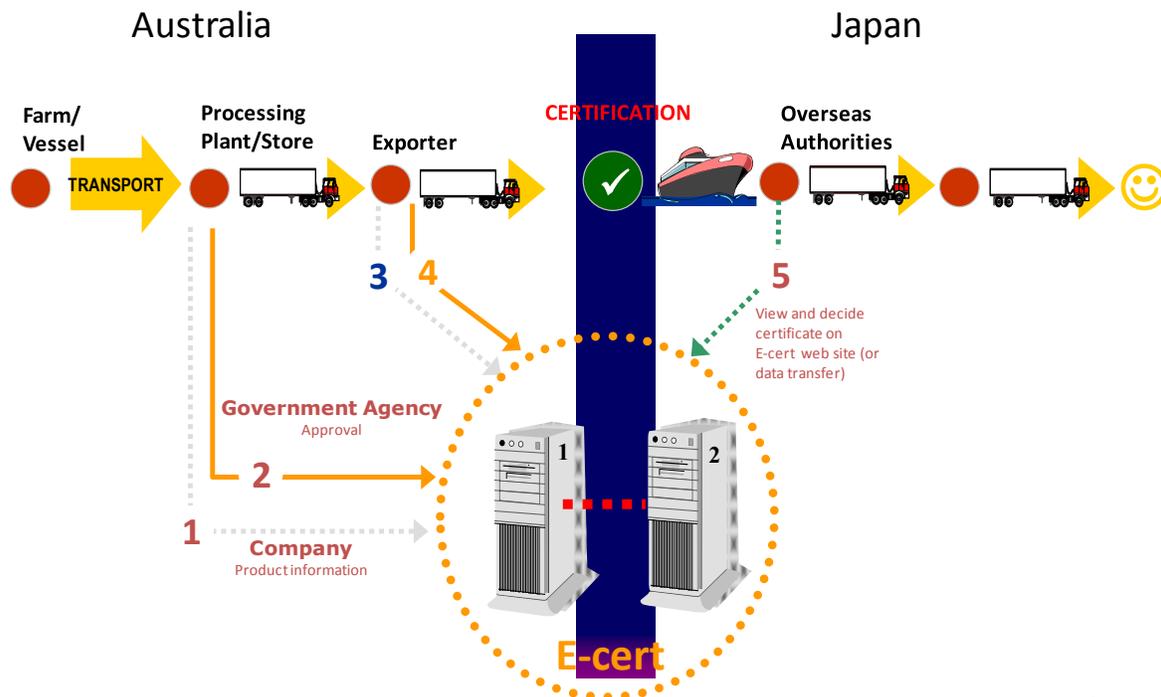
3.1 Renewal of ANIPAS operated by the Animal Quarantine Service

In May 2011, the Animal Quarantine Service (AQS) under the Ministry of Agriculture, Forestry and Fisheries (MAFF) has renewed its ANIPAS (Animal quarantine Inspection Procedure Automated System) to substitute XML/EDI based on e-Cert published by UN/CEFACT for SANCRT in UN/EDIFACT.

In 1998, AQS had started EDI operation by and between AQIS (Australian Quarantine and Inspection Service) using SANCERT message in UN/EDIFACT.

Both governments have decided to replace EDI protocol in order to serve traders more efficient and economical performance by implementing modernized XML based EDI on the international standard published by UN/CEFACT.

UN/CEFACT E-cert Business Model





3.2 Single Window of Japan

3.2.1 Nippon Automated Cargo and Port Consolidated System (NACCS)

In October 2008, the Government of Japan had carried out the reform of key operator of Japanese Single Windows, i.e. NACCS in the following way:

- i) Nippon Automated Cargo Clearance System, an independent administrative agency under the Ministry of Finance merged Port EDI system under the Ministry of Land, Transportation, and Infrastructure.
- ii) It was privatized and renamed to “Nippon Automated Cargo and Port Clearance System Inc. But its abbreviation remains same as it was, i.e. NACCS.
- iii) For the time being, the Government of Japan is the exclusive share holder.

This reform was done with a view to promote the efficient filed operation of the Next Generation

3.2.2 Current services by NACCS

In February 2010, NACCS launched the Next Generation Single Window of Japan.

This newer version realized the following developments (See the Diagram 2):

- i) Integration of customs operation for sea-cargo (Sea-NACCS) and for air-cargo (Air-NACCS)”.
- ii) Integration of import, export, emigration and immigration procedures other than customs

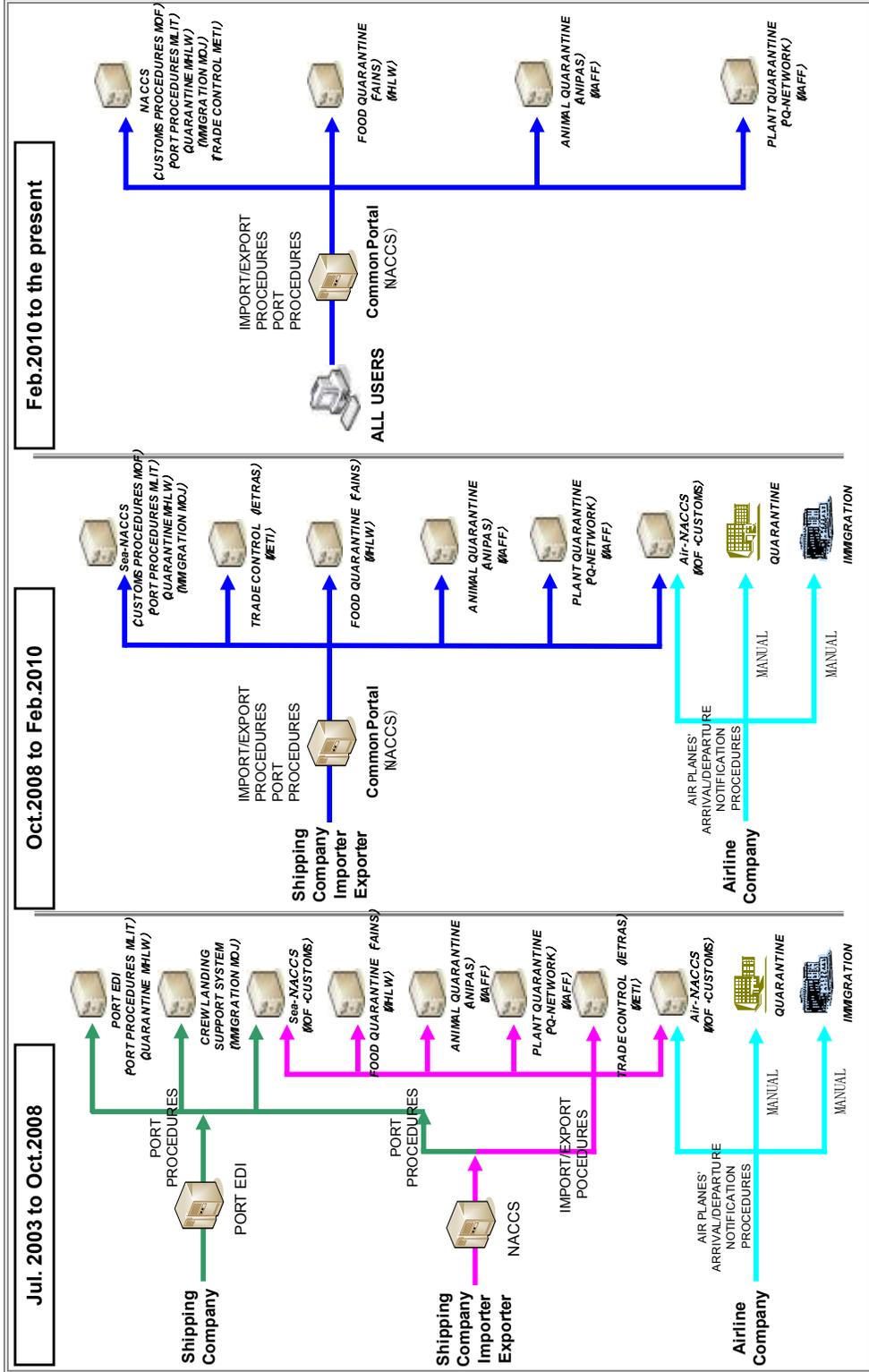
TABLE 1

Procedure	Jurisdiction	Systems merged
Port Clearances (Sea)	MLIT	Port EDI
Immigration of crew	MOJ	Port EDI
Quarantine of crew	MHLW	Port EDI
Export Trade control	METI	JETRAS
Arrival/Departure notification at the airport	MOF-Customs	Air-NACCS
Immigration of passenger at the airport	MOJ	Manual operation
Quarantine of passenger at the airport	MHLW	Manual operation



Development of Single Window

MOJ) MINISTRY OF JUSTICE
 MOF) MINISTRY OF FINANCE
 MHLW) MINISTRY OF HEALTH, LABOUR AND WELFARE
 MAFF) MINISTRY OF AGRICULTURE, FORESTRY AND FISHERIES
 METI) MINISTRY OF ECONOMY, TRADE AND INDUSTRY
 MLIT) MINISTRY OF LAND, INFRASTRUCTURE, TRANSPORT AND TOURISM





SECTION IV – Other advanced applications –IT– enabled Service (ITeS)

4.1 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.

4.2 The Distribution Systems Research Institute (DSRI)

DSRI, a member of GS1, had facilitated 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 message standard named Distribution Business Message Standard (DBMS).

In 2007, the first basic version standard eight (8) messages for the grocery store industry, super markets. In 2008, standard messages for perishable food (mainly fresh fish) to be implemented by supermarkets and fresh fish stores were released.



In 2010, “Department Version” standard 26 messages for department stores were published.

For effective implementation of DBMS, DSRI has developed and maintaining the following perishable food commodity code list:

- Commodity code list for fresh fruits
- Commodity code list for meet
- Commodity code list for fishery products

Also DSRI has published the following guides for smooth and wider implementation of DBMS:

- DBMS implementation guide
- DBMS XML Schema guide
- Temple for user agreement on their implementation
- Communication protocol users’ guide and check sheet
- Certification Authority policy for distribution industry

4.3 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.



Korea Progress Report



SECTION I - GENERAL CONDITION UPDATE

1.1 e-Business Trend

The business volume of domestic e-Business in 2010 increased by 22.6% compared to the previous year. (2009 : USD 672 billion → 2010 : USD 824 billion)

B2B has the highest growth rate at 26%, particularly, manufacturing shows the exceptional 35.5% growth.

1.1.1 e-Commerce by the Type of Customer

While the business volume of B2B and B2C increased 26% and 32.9% respectively, B2G decreased by 11.2%, compared to the previous year. A marked decrease of construction works is the reason why the total volume of B2G was down. (refer to 1.1.4)

Unit : Billion USD

	e-Commerce	B2B	B2G	B2C	Others
2008	630,087	560,255	52,266	11,359	6,207
2009	672,478	592,965	59,455	12,045	8,012
2010	824,391	747,090	52,772	16,005	8,523

Source: Statistics Korea, 2011, \$1 USD ≈ 1,000 KRW

1.1.2 B2B e-Commerce by Domination and Attribute of Transaction

The business volume of buyer operated e-Commerce, 424 billion dollars, showed 7.7% growth. The volume of supplier operated e-Commerce was, 279 billion dollars, smaller than that of buyer operated, but it showed a strong growth rate at 72.7%.



Unit : Billion USD

	Buyer operated ¹⁾			Supplier operated ²⁾			Inter-mediary operated
		Open type	Closed type		Open type	Closed type	
2008	381,003	113,523	267,481	146,947	10,521	136,426	32,304
2009	393,970	161,039	232,930	161,546	14,373	147,173	37,450
2010	424,426	165,918	258,509	278,938	12,310	266,628	43,726

Source: Statistics Korea, 2011, \$1 USD ≈ 1,000 KRW

1) Buyer operated : Business deal on e-Commerce online site of which a buyer runs and suppliers visit.

2) Supplier operated : Business deal on e-Commerce online site of which a supplier runs and buyers visit.

1.1.3 B2B e-Commerce

The total business volume of B2B e-Commerce was around 747 billion dollars. manufacturing (35.5%), wholesale and retail trade (20.4%), construction (8.3%) and information and communication (26%) were increased, on the other hand electricity · gas · water supply (-6.5%) and transportation (-41.5%) were decreased.

Unit : Billion USD

	B2B e-Commerce by Industry							
		Manu- facturing	Electricity· Gas· Water supply	Con- struction	Wholesale· Retail Trade	Trans- portation	Information & Communication	Others
2008	560,255	359,732	10,807	63,288	96,185	8,456	11,514	10,273
2009	592,965	375,246	15,066	56,978	105,073	19,305	13,713	7,582
2010	747,090	508,520	14,090	61,711	126,543	11,297	17,274	7,656

Source: Statistics Korea, 2011, \$1 USD ≈ 1,000 KRW



1.1.4 B2G e-Commerce

The total business volume of B2G e-Commerce was around 53 billion dollars. Purchase of goods & services and construction works decreased 1.2% and 22.2% respectively, down from 11.2% compared to the previous year.

Unit : Billion USD

	B2G e-Commerce		
		Purchase of goods & services	Construction works
2008	52,266	30,306	21,960
2009	59,455	31,024	28,432
2010	52,772	30,659	22,113

Source: Statistics Korea, 2011, \$1 USD ≈ 1,000 KRW

1.1.5 B2B e-Commerce by Destination

The total volume of B2B e-Commerce by Destination grew 26%. The business volume occurred among domestic companies increased 15.2% and that of among overseas companies showed an outstanding growth of 60.7%.

Unit : Billion
USD

	Buyer operated		
		Domestic company	Overseas company
2008	560,255	430,954	129,301
2009	592,965	451,970	140,994
2010	747,090	520,581	226,509

Source: Statistics Korea, 2011, \$1 USD ≈ 1,000 KRW



SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 ebXML

Ministry of Public Administration and Security (MOPAS) opened government electronic document distribution support center (GDOC) at October, 1998. The center is promoting electronic approval and electronic document distribution and now extending the scope of electronic document distribution among government agencies until October, 2002. MOPAS had executed an information strategy planning (ISP) project from Jun to December, 2004 whose purpose is to enhance the efficiency of GDOC. It had changed the electronic document box and distribution system with international standard (ebXML), which enables mediator system to process an electronic document transferred to the electronic document box. MOPAS had also implemented management function for providing information of itself and its agency.

As a result of promoting government electronic document distribution, the average rate of electronic approval in administration agencies comes up to 98.2% and the rate of electronic document distribution comes up to 97.3% at December 2010, which shows the stable rate of use compared to 92.6 and 82.3 at 2002. MOPAS is now trying to promote the scope of electronic document and document distribution in order to include administration agency, self-government party, subsidiary agency and public agency. MOPAS are now extending the scope of electronic document distribution to 80 agencies, which use open standard electronic document system.

MOPAS has a plan to make stable electronic document distribution system of which technology is based on open standard and to modify the law and system in order to apply the system to public and private sector.

2.2 e-Procurement (G4B)

Public Procurement Service (PPS) had launched the procurement EDI project at 1997 to make procurement be electronic form. The project had been finished at 2001 by implementing G2B system, which started electronic bidding service (GoBIMS) enabling PPS and other public agencies to extend electronic procurement. G2B includes a single window providing all the companies that want to trade with public agencies unique interface.

The procurement companies log on the site and look around the order information of public agencies. They also can attend bidding for an agency by registering G2B site and confirm the bidding process in real-time.



G2B also provides One-stop service where user can access 30 external systems and services without any additional log-in process except individual users. For sharing document or data with individual users, it is possible to use standard approval or XML standard electronic document distribution. For certification or payment which requires link with external systems, G2B includes the connection service which enables users to do all tasks in G2B system. By connecting 6 public certification agencies and MOPAS digital signature, G2B guarantees the safety of electronic trade and abolished the requirements of submitting additional documents.

In G2B, the money for purchasing products could be electronically transferred by connecting major domestic banks, Korea financial telecommunications and clearings institute (KFTC) and national financial information system in ministry of strategy and finance (MOSF). G2B uses the connection of standard electronic approval system, enabling users to use systems without any extra input. The public agency and procurement companies need not implement their own procurement system and use G2B system according to the standard task process. When a public agency consigns a procurement task to PPS, G2B can provide the procurement service with connecting the previous procurement EDI system as a portal of public procurement.

For implementing G2B, PPS had modified the classification of products, UNSPSC (United Nations Standard Products and Services Code), to improve compatibility of private companies and international standard. By adopting not only classification scheme but also management ID for identifying public agencies and the standard for administration and technology, G2B could be connectable with any external systems.

Base technology for implementing G2B is digital signature and document security based on PKI (Public Key Infrastructure) technology, ebXML (Electronic Business Extensible Markup Language) and a message standard, SOAP (Simple Object Access Protocol). G2B can execute electronic transaction safely and reliably with these technologies and communicate with minimal modification.

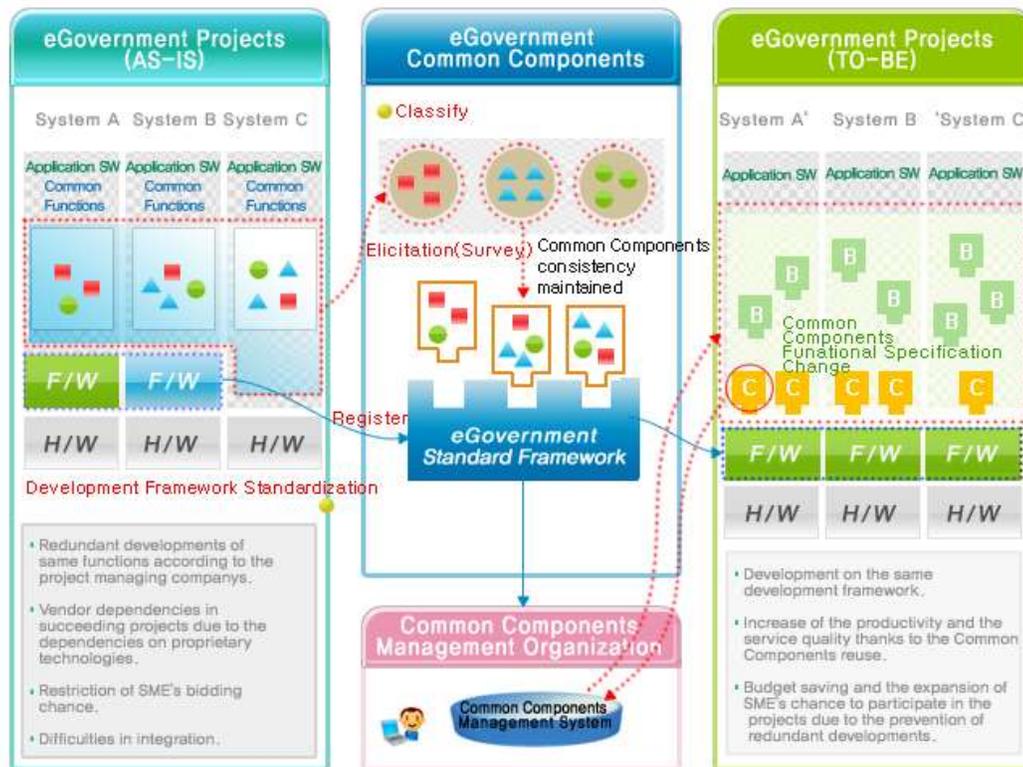


SECTION III – e-Readiness and e-Application -- eGovernment/ eBusiness RELATED PROJECT UPDATES

3.1 e-Government

eGovernment Standard Framework which had been planned and implemented by MOPAS shows over 88,000 downloads after it had been publicized at Jun 2009 and is now spreading public and private sectors very rapidly. In FutureGov Awards in Singapore at 2010, eGovernment Standard Framework prized 3 departments: government, leading technology and government innovation, which gets the international reputation in the area of electronic government.

The eGovernment Standard Framework is an infrastructure environment for implementing application SWs and provides basic functions in the application SW runtime. The eGovernment Standard Framework has an objective to increase the quality of eGovernment services, the efficiency of IT investment and the standardization and the reusability of application SWs through establishing and applying the development framework standard.





The eGovernment Standard Framework has following features to accomplish its objective to increase the interoperability and the reusability of National Information Systems.

- Complies with open standards
 - Uses open and widely used technologies instead of proprietary technologies
 - Eliminates the dependency on a specific vendors by using open source based technologies

- Integrates with commercial solutions
 - Assures interoperability by providing standards for integrating with commercial solutions
 - Provides interchangeable structures which are not dependent on specific solutions

- Oriented towards standardization on the national scale
 - Holds advisory meetings of public officials, professors and solution and SI vendors
 - Performs standardization on the national scale through persistent opinion gathering and information exchange

- Flexible to cope with the newest technologies
 - Structured to exchange modules easily to cope with the progress of technologies
 - Loose coupling between modules through interface-based integration

- Provides easy to use and function-rich environments
 - Provides convenient Editing, Compiling and Debugging environment through an Eclipse-based development environment
 - Provides functions for the UML and ERD modeling
 - Provides convenient data processing functions using DBIO

The eGovernment Standard Framework increases development productivity and component reusability among application systems by providing a standardized infrastructure, increases the interoperability and promotes the standardization of application SWs through the interface standards.

- Increase in development productivity: Minimizes redundant developments by providing common essential functions and allows developers to



- concentrate on the business logic by defining an infrastructure.
- Increase in the reusability of eGovernment application systems: Increase the standardization of the development framework allows components already developed on the eGovernment Standard Framework to be reused in other application systems.
 - Increase in the interoperability of the eGovernment systems: Increase the interoperability of application systems by using standard inter-system integration interface.
 - Standardization of eGovernment application systems: Promotes the standardization of the program code by providing the standardized development infrastructure for presentation, business logic processing and data processing.
 - Promotion of open source SW use: Promotes the developer's use of open source SWs by defining open source based standard framework.
 - Improvements in the competitiveness of SM-sized SW vendors: Strengthens the competitiveness of SM-sized SW vendors by sharing the eGovernment Standard Framework and increasing development manpower skillful in developing on the framework.

3.2 Electronic Tax Bill

According to the evolution of IT technology and spread of computerization in all the area of social and economy at early 2000, Korea government allows electronic tax bill at 2001. Electronic tax bill has been popularized at big and ASP companies and spread with time. Multiple ASP companies have provided the electronic tax bill services and made the electronic tax bill market in about 8 years. National Tax Service (NTS), Korea government agency for tax service, established the law for electronic tax bill for applying it to nation-wide at December 2008.

NTS puts up a notice for a guideline for developing electronic tax bill distribution by e-mail to provide criteria and process for electronic tax bill distribution at February 2010. The notice included distribution process, security, communication and public key acquisition for developing e-mail based distribution system. NTS also developed a web system for receiving e-mail based electronic tax bill (called e-Sero) and a test bed for testing and issuing certificate for electronic tax bill system at 2010.



NTS recommended SOAP v1.1(or v1.2), SOAP Messages with Attachment, WS-Security v1.1 and WS-Addressing v1.0 for message transfer at the guideline of electronic tax bill development. The guideline defines the message envelop, transfer process and standard method for transfer process in order that a company may transfer a tax bill electronically and receive the result of transfer.

SECTION IV – Other advanced applications – IT – enabled Service (ITeS)

4.1 e-Government SOA services

Korea Government has adopted SOA (Service Oriented Architecture) technology in electronic government system and as a result introduction SOA in public sectors is now increasing continuously. SOA services are applied at government side information inquiry, civil application, statistics, notification and weather information, etc, whose total number is over 103. Each person, private companies and even public agencies can develop new services or programs by using the SOA services. Using SOA services reduces the time, cost and man-power enormously in developing and managing new system or services by using just simple service interface.

Korea government is now developing e-government standard common services and development framework. This project develops 125 common services which will be reusable highly such as login module, bulletin-board module and defines the standard for design and development. Korea government is also trying to implement Web service registry (using UDDI standard) for aggregating all the services published by government side and increasing reusability of common services.

Information Promotion Committee (IPC) in government side sets up open, sharing and collaboration based on service oriented as a national first-priority project in basic plan for national information. IPC is now collecting government services published previously in order to provide services in the respect of demander and preparing efficient management system for service data.



Pakistan Progress Report



e-Commerce Resource Centre - Pakistan



SECTION I - GENERAL CONDITION UPDATE

- 1.1** With about 170 million inhabitants, Pakistan is the second largest Islamic nation after Indonesia. The country has considerable potential to develop into a stable, moderate and democratic state, but has not yet fully realized this potential. E-Governance with best practices remains an important task for the Government to increase collection efficiency for exchequer.
- 1.2** Other political challenges include eliminating religious extremism and sectarian violence, addressing regional imbalances and improving the human rights situation. Continuation of the positive trend in political and business relations with US, EU, India, China, UAE and Afghanistan has greatly contributed to enhanced regional stability.
- 1.3** Since 1999 Pakistan has been successfully implementing a macroeconomic reform programme, resulting in some of the best economic indicators in its history. GDP growth reached 8.4% in 2004-05. This was facilitated by a good export performance, high workers' remittances, higher FDI and external financial support. The new elected Government took over in 2008, but after the global economic meltdown and further to the massive floods in recent years that led to substantial loss of crops, GDP growth has been less than 5%.
- 1.4** Poor Governance remains a key issue and has had a negative impact on social service delivery due to lower per capita income. Electronic integration of the economy was planned in the year 2001, through Information Technology Policy Action Plan for 'Use of IT in Economy'. Some of the projects have been implemented successfully in the Banking, Capital Market and Financial sector whereas large projects e.g Interoperability framework for e-Government, Single Window, e-Logistics, e-Trade, Certification Authority and e-Payments are yet to be implemented on a full scale. The Ministry of Information Technology needs to play very active role for inter-ministerial co-ordination for implementation of projects those are part of the Information Technology Policy.
- 1.5** The Ministry of Finance has a pivotal role in mobilizing resources for the projects to be implemented under the Federal Board of Revenue in collaboration of Ministry of Commerce.



- 1.6** Pakistan's Tax-to-GDP Ratio is the lowest in the region and has declined to less than 9% from 15% in 1996. However, the private sector is performing well in Pakistan. It is the pillar for future growth, as 90% of the telecom sector, 77% of banking sector and a substantial share in cement, textile and some other sectors are in the hands of private sector. Presently, the corporate sector is contributing 93 percent of total taxes while other sectors, including retail businesses, are paying only 7 percent of total tax revenue.
- 1.7** Weak tax collections and consequent low tax-to-GDP ratio forces the government to borrow to meet expenses and it affects growth rate. Electronic integration of the economy would play a major role in tax collection and improvement in tax-to-GDP Ratio, ultimately improving GNP per capita. Ministry of IT & Telecom has a big role to implement IT Policy and e-Business action plan to integrate economy and provide seamless electronic linkages among private and public sector stakeholders, citizen, business and the Government.

SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

- 2.1** WeBOC, e-Customs system developed by Pakistan Revenue Automation Limited, has a standard method to exchange business messages, conduct trading relationships, communicate data in common terms and define and register business processes through XML Web Service.
- 2.1.1. Web Service for exchanging National Tax Registration, check digits verification, suspensions and Active Taxpayer status etc.
 - 2.1.2. Web Service for exchanging data between legacy One Customs System and WeBOC to maintain central reporting system and central quota managements.
 - 2.1.3. Web Service for exchanging data between WeBOC and Terminal Operator which exchange berthing events of vessel, container discharge messages, handling codes, release codes etc.
 - 2.1.4. Auto email messaging mechanism for exchanging data between WeBOC and Airlines using IATA standards. This exchange is based on plain text email and as well XML format files.

Another important development is signing of an agreement between the governments of Afghanistan and Pakistan during the April 2011 to convene a Joint Technical Working Group on Customs Data Exchange. The meeting of



Joint Technical Group has held at Islamabad in July 2011 in which following recommended steps have been decided to operationalize Customs Data Exchange:

Phase-I will include the exchange of electronic messages in XML format on the following transportation routes:

Port of Karachi	Torkham	Afghanistan destination
Port of Qasim	Torkham	Afghanistan destination
Heratan	Torkham	Pakistan destination
Shir Khan	Torkham	Pakistan destination

This phase will include the sending of 3 messages per shipment:

1. The transit country will advise the destination country when the goods have arrived in its territory in Karachi for Pakistan, and Heratan or Shir Khan for Afghanistan; subsequent ACK notification sent by destination country.

The transit country will advise the destination country when the goods have been processed for export in torkham; subsequent ACK notification sent by destination country.

2. The destination country will inform the transit country once the goods have arrived in its territory and the customs clearance procedures have begun; subsequent ACK notification sent by destination country.

On the success of initial phase, rest of the routes and messages shall be defined and implemented.

SECTION III – e-Readiness and e-Application -- eGovernment/ eBusiness RELATED PROJECT UPDATES

Pakistan has improved in e-Business Readiness ranking by Economist Intelligence Unit. The global ranking of Pakistan was 67 in 2006 and jumped to 63 in 2007. It currently stands at 66.



Economist Intelligence Unit e-readiness rankings and scores, 2009

2009 rank (of 70)	2008 rank	Country	2009 score (of 10)	2008 score	2009 rank (of 70)	2008 rank	Country	2009 score (of 10)	2008 score
1	5	Denmark	8.87	8.83	36	36	Slovakia	6.02	6.06
2	3	Sweden	8.67	8.85	37	37	Latvia	5.97	6.03
3	7	Netherlands	8.64	8.74	38	34	Malaysia	5.87	6.16
4	11	Norway	8.62	8.60	39	41	Poland	5.80	5.83
5	1	United States	8.60	8.95	40	40	Mexico	5.73	5.88
6	4	Australia	8.45	8.83	41	39	South Africa	5.68	5.95
7	6	Singapore	8.35	8.74	42	42	Brazil	5.42	5.65
8	2	Hong Kong	8.33	8.91	43	43	Turkey	5.34	5.64
9	12	Canada	8.33	8.49	44	49	Jamaica	5.33	5.17
10	13	Finland	8.30	8.42	45	44	Argentina	5.25	5.56
11	16	New Zealand	8.21	8.28	46	50	Trinidad & Tobago	5.14	5.07
12	9	Switzerland	8.15	8.67	47	48	Bulgaria	5.11	5.19
13	8	United Kingdom	8.14	8.68	48	45	Romania	5.07	5.46
14	10	Austria	8.02	8.63	49	47	Thailand	5.00	5.22
15	22	France	7.89	7.92	50	53	Jordan	4.92	5.03
16	19	Taiwan	7.86	8.05	51	46	Saudi Arabia	4.88	5.23
17	14	Germany	7.85	8.39	52	58	Colombia	4.84	4.71
18	21	Ireland	7.84	8.03	53	51	Peru	4.75	5.07
19	15	South Korea	7.81	8.34	54	55	Philippines	4.58	4.90
20	20	Belgium	7.71	8.04	55	52	Venezuela	4.40	5.06
21	17	Bermuda	7.71	8.22	56	56	China	4.33	4.85
22	18	Japan	7.69	8.08	57	57	Egypt	4.33	4.81
23	23	Malta	7.46	7.78	58	54	India	4.17	4.96
24	28	Estonia	7.28	7.10	59	59	Russia	3.98	4.42
25	26	Spain	7.24	7.46	60	63	Ecuador	3.97	4.17
26	25	Italy	7.09	7.55	61	62	Nigeria	3.89	4.25
27	24	Israel	7.09	7.61	62	61	Ukraine	3.85	4.31
28	27	Portugal	6.86	7.38	63	60	Sri Lanka	3.85	4.35
29	29	Slovenia	6.63	6.93	64	65	Vietnam	3.80	4.03
30	32	Chile	6.49	6.57	65	68	Indonesia	3.51	3.59
31	31	Czech Republic	6.46	6.68	66	64	Pakistan	3.50	4.10
32	38	Lithuania	6.34	6.03	67	67	Algeria	3.46	3.61
33	30	Greece	6.33	6.72	68	70	Iran	3.43	3.18
34	35	United Arab Emirates	6.12	6.09	69	66	Kazakhstan	3.31	3.89
35	33	Hungary	6.04	6.30	70	69	Azerbaijan	2.97	3.29

Note: A four-decimal score is used to determine each country's rank.

Source: Economist Intelligence Unit, 2009.



Competitiveness Index

Country/Economy	GCI 2011-2012		GCI 2010-2011	
	Rank	Score	Rank	Change
Switzerland	1	5.74	1	0
Singapore	2	5.63	3	1
Sweden	3	5.61	2	-1
Finland	4	5.47	7	3
United States	5	5.43	4	-1
Germany	6	5.41	5	-1
Netherlands	7	5.41	8	1
Denmark	8	5.40	9	1
Japan	9	5.40	6	-3
United Kingdom	10	5.39	12	2
Hong Kong SAR	11	5.36	11	0
Canada	12	5.33	10	-2
Taiwan, China	13	5.26	13	0
Qatar	14	5.24	17	3
Belgium	15	5.20	19	4
Norway	16	5.18	14	-2
Saudi Arabia	17	5.17	21	4
France	18	5.14	15	-3
Austria	19	5.14	18	-1
Australia	20	5.11	16	-4
Malaysia	21	5.08	26	5
Israel	22	5.07	24	2
Luxembourg	23	5.03	20	-3
Korea, Rep.	24	5.02	22	-2
New Zealand	25	4.93	23	-2
China	26	4.90	27	1
United Arab Emirates	27	4.89	25	-2
Brunei Darussalam	28	4.78	28	0
Ireland	29	4.77	29	0
Iceland	30	4.75	31	1
Chile	31	4.70	30	-1
Oman	32	4.64	34	2
Estonia	33	4.62	33	0
Kuwait	34	4.62	35	1
Puerto Rico	35	4.58	41	6
Spain	36	4.54	42	6
Bahrain	37	4.54	37	0
Czech Republic	38	4.52	36	-2
Thailand	39	4.52	38	-1
Tunisia	40	4.47	32	-8
Poland	41	4.46	39	-2
Barbados	42	4.44	43	1
Italy	43	4.43	48	5
Lithuania	44	4.41	47	3
Portugal	45	4.40	46	1
Indonesia	46	4.38	44	-2
Cyprus	47	4.36	40	-7
Hungary	48	4.36	52	4
Panama	49	4.35	53	4
South Africa	50	4.34	54	4
Malta	51	4.33	50	-1
Sri Lanka	52	4.33	62	10
Brazil	53	4.32	58	5
Mauritius	54	4.31	55	1
Azerbaijan	55	4.31	57	2
India	56	4.30	51	-5
Slovenia	57	4.30	40	-12
Mexico	58	4.29	66	8
Turkey	59	4.28	61	2
Montenegro	60	4.27	45	-11
Costa Rica	61	4.27	56	-5
Iran, Islamic Rep.	62	4.26	69	7
Uruguay	63	4.25	64	1
Latvia	64	4.24	70	6
Vietnam	65	4.24	59	-6
Russian Federation	66	4.21	63	-3
Peru	67	4.21	73	6
Colombia	68	4.20	68	0
Slovak Republic	69	4.19	60	-9
Rwanda	70	4.19	80	10
Jordan	71	4.19	65	-6

Country/Economy	GCI 2011-2012		GCI 2010-2011	
	Rank	Score	Rank	Change
Kazakhstan	72	4.18	72	0
Morocco	73	4.16	75	2
Bulgaria	74	4.16	71	-3
Philippines	75	4.08	85	10
Croatia	76	4.08	77	1
Romania	77	4.08	67	-10
Albania	78	4.06	88	10
Macedonia, FYR	79	4.05	79	0
Botswana	80	4.05	76	-4
Trinidad and Tobago	81	4.00	84	3
Ukraine	82	4.00	89	7
Namibia	83	4.00	74	-9
Guatemala	84	4.00	78	-6
Argentina	85	3.99	87	2
Honduras	86	3.98	91	5
Algeria	87	3.96	86	-1
Georgia	88	3.95	93	5
Lebanon	89	3.95	92	3
Greece	90	3.92	83	-7
El Salvador	91	3.89	82	-9
Armenia	92	3.89	98	6
Moldova	93	3.89	94	1
Egypt	94	3.88	81	-13
Serbia	95	3.88	96	1
Mongolia	96	3.86	99	3
Cambodia	97	3.85	109	12
Syria	98	3.85	97	-1
Gambia, The	99	3.84	90	-9
Bosnia and Herzegovina	100	3.83	102	2
Ecuador	101	3.82	105	4
Kenya	102	3.82	106	4
Bolivia	103	3.82	108	5
Benin	104	3.78	103	-1
Tajikistan	105	3.77	116	11
Ethiopia	106	3.76	119	13
Jamaica	107	3.76	95	-12
Bangladesh	108	3.73	107	-1
Guyana	109	3.73	110	1
Dominican Republic	110	3.73	101	-9
Senegal	111	3.70	104	-7
Suriname	112	3.67	n/a	n/a
Zambia	113	3.67	115	2
Ghana	114	3.65	114	0
Nicaragua	115	3.61	112	-3
Cameroon	116	3.61	111	-5
Malawi	117	3.58	125	8
Pakistan	118	3.58	123	5
Cape Verde	119	3.58	117	-2
Tanzania	120	3.56	113	-7
Uganda	121	3.56	118	-3
Paraguay	122	3.53	120	-2
Belize	123	3.52	n/a	n/a
Venezuela	124	3.51	122	-2
Nepal	125	3.47	130	5
Kyrgyz Republic	126	3.45	121	-5
Nigeria	127	3.45	127	0
Mali	128	3.39	132	4
Côte d'Ivoire	129	3.37	129	0
Madagascar	130	3.36	124	-6
Timor-Leste	131	3.35	133	2
Zimbabwe	132	3.33	136	4
Mozambique	133	3.31	131	-2
Swaziland	134	3.30	126	-8
Lesotho	135	3.26	128	-7
Burkina Faso	136	3.25	134	-2
Mauritania	137	3.20	135	-2
Yemen	138	3.06	n/a	n/a
Angola	139	2.96	138	-1
Burundi	140	2.95	137	-3
Haiti	141	2.90	n/a	n/a
Chad	142	2.87	139	-3

Pakistan has improved in Global Competitiveness Ranking by the World Economic Forum. It has jumped 5 points from 123 in 2010-11 to 118 in 2011-12 rankings.

PROJECTS

3.1 Electronic filing of Manifests by Shipping Lines / Airlines and Customs



Declarations for Imports, Exports and Transit Consignments

- 3.2** Paperless processing of Customs Goods Declarations
- 3.3** Issuance of electronic certificates for release / detention of consignments pertaining to plants / plants products and animals / animal products by the departments of Plant Protection and Animal Quarantine respectively
- 3.4** Electronic debiting of quota issued by various government agencies
- 3.5** e-readiness for collection of online duties and taxes
- 3.6** Digital Certificates being issued by NIFT (Verisign Solution) to corporate sector, banks and government institutions
- 3.7** TTFC2 (Trade and transportation facilitation) phase II 5 year project, funded by World Bank, and executed by Ministry of Commerce in collaboration of UNCTAD under National Trade and Transportation Facilitation Committee; is under way.
- 3.8** WeBOC, the e-Customs system developed by Pakistan Revenue Automation Limited (PRAL), has replaced PACCS e-Customs System at Port Qasim International Terminal, Karachi.

SECTION IV – Other advanced applications – IT – enabled Service (ITeS)

4.1 IT Sector

Industry Overview

Pakistan is fast becoming the destination of choice for a significant number of international IT/ITeS companies looking to relocate their operations offshore. The ready availability of skilled professionals, an appropriate IT infrastructure, and affordable rates for connectivity result in considerable time and cost-savings for entrepreneurs.

Pakistan's IT industry's global share is estimated at US\$2.8 billion, including global sales revenue of US\$1.6 billion.



A skilled workforce of 110,000 English-speaking IT professionals in the economy, of which 24,000 are engaged in exports.

Nearly 1500 companies. Two are listed on the Karachi Stock Exchange (KSE), 2 on the National Association of Securities Dealers Automated Quotations (NASDAQ) and 1 on the Dubai International Financial Exchange (DIFX).

Nine STPs offering around 700,000 square feet of IT-enabled office space.

Seven multinational companies have 'Development Centers' in Pakistan.

110 ISO 9001, 23 CMMi and 11 ISO 27001 certified companies.

A strong telecom sector supports the IT industry's development.

MOBILE, GAMING & ANIMATION INDUSTRY

Mobile, Gaming & Animation Industry Whether it is Babar Ahmed whose Mindstorm Studios created Cricket Revolution™ – the first PC game produced by a Pakistani gaming outfit to sell in retail stores internationally – and recently launched the official game of the ICC WorldCup 2011; brothers Rizwan and Irfan Virk whose GameView Studios created the successful Tap franchise and was recently acquired by Japanese social gaming giant DeNA; Hasan Rizvi whose Pepper.PK made history by developing two top-ranking paid BlackBerry applications at BlackBerry's AppWorld store; Murad Akhtar who left Stanford and Silicon Valley to form Tintash, dedicated to creating innovative casual games designed for the iPhone, iPad, and Android platforms; or Umair Javed of TkXeL who prides himself in creating not one but two 100% "Made in Pakistan" mobile applications and gaming companies from a university lab in Lahore, Pakistan's mobile, gaming, and animation scene is increasingly a hotbed of a new generation of exciting entrepreneurs seeking their fair share in the riches and prosperity of a new age of infotainment, and in the process making a point to the rest of the world.

PAKISTAN'S FINANCIAL SOFTWARE INDUSTRY

Pakistan's IT industry that has been overtaken, only recently, by the boom in the telecommunications sector. Pakistan's financial services technology industry is also quite diversified – both in terms of the geographical-market footprint, and the coverage of various sub-sectors – and has shown considerable resilience in the wake of the recent global financial crisis, whose impact has been particularly severe and prolonged on the developed financial markets in the United States and Europe.



From a market thrust standpoint, for instance, the financial services technology companies have been varied, and can be divided into three distinct streams:

- Focused towards the developed world, especially the European Union (EU) and the United States (US)
- Focused towards rest of the world, especially the Asia-Pacific (AP) region
- Focused towards the emerging markets and developing countries in the Middle East and North Africa (MENA), including, Pakistan's domestic market at home

In each of these markets, Pakistani IT companies face and respond to a different set of drivers, challenges, and opportunities commensurate with the level of maturity, regulatory needs, demands of the end consumer, and growth prospects.

GLOBAL HEALTHCARE

In 1997, Bilal Hashmat founded CureMD – a New York - based company – to provide IT solutions to the growing US healthcare market. The first company in the world to offer cloud - based services to the healthcare industry, CureMD today is one of the top-ranked healthcare IT providers in the United States. Kubair A. Shirazee's Ikonami Ltd. recently concluded an acquisition of its very successful suite of learning, competence, and performance management products focused on the UK healthcare industry by Radcliffe Publishing Ltd., whose parent company, Electric Word plc, a specialist information publisher focused on the healthcare vertical. With the product installed in 410 hospital trusts of the National Health Service (NHS), Ikonami Pakistan can pride itself on contribution to one of the largest healthcare providers in the world.

Source: Pakistan Software Export Board

4.2 Telecom Sector

Cellular industry of Pakistan has matured into a competitive and progressive market which requires new ventures to be explored by cellular operators and ultimately delivered to end users.

From a mere 5 million cellular subscribers in 2004, cellular subscribers jumped to 100 million in 2010. Voice has been the focus of cellular operators since the inception of cellular mobile services in Pakistan but now the focus is shifting towards utilizing the huge potential lying in data and value added services (non-voice).



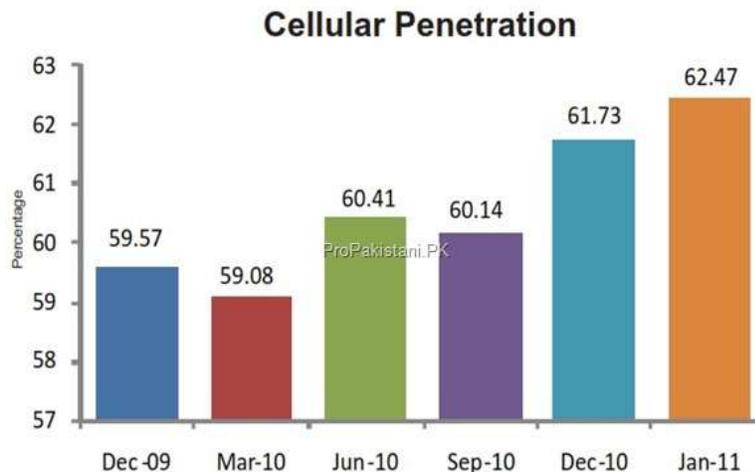
Pakistan's cellular sector is best known for low-cost mobile connection charges, reduced tariffs, almost complete coverage area and better mobile services for the general public throughout the country.

As of Today, cellular teledensity has reached 62.5% from just 3.3% in 2004 while almost 92% of the land area and more than 10,000 cities/towns/villages are under the umbrella of by cellular services.

From only 2000 cell sites to 30,417 in just six years, cellular services have reached to every nook and corner of the country. However, there still exist challenges for the regulator and industry alike such as quality of service, heavy taxation, lack of local content on mobile phones and economic slowdown.

4.2.1. Cellular Penetration

Cellular penetration in the country has reached 62.5% at the end of January 2011 which means that every 6 out of 10 people in Pakistan owns a mobile connection. cellular penetration had a topsy-turvy trend in the recent past due to continuous data cleaning process by the operators and blockage of un-registered SIMs by the operator.



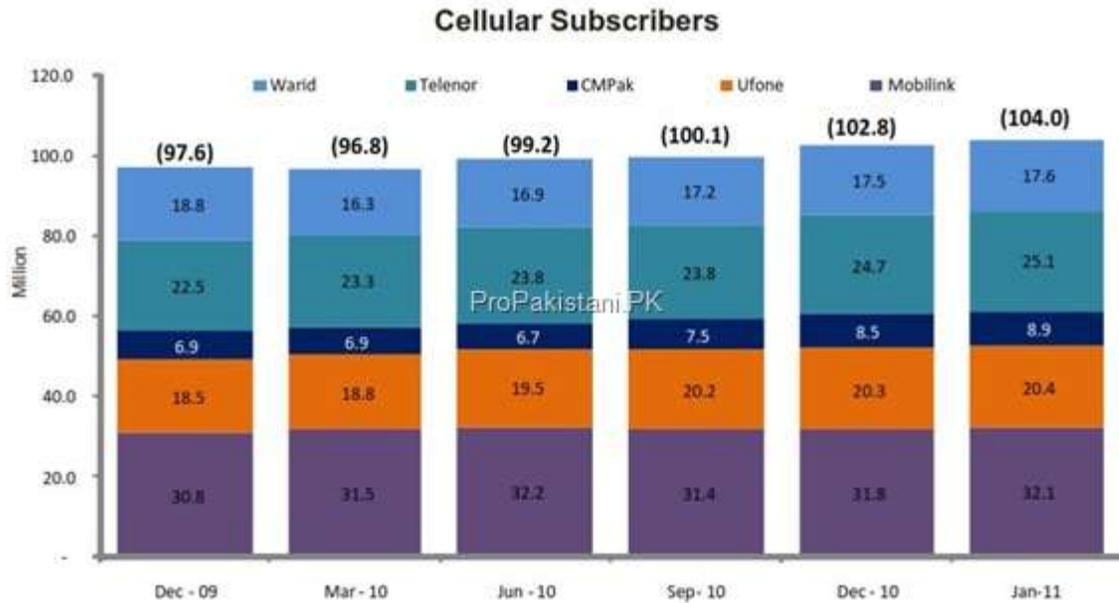
4.2.2. Subscribers Mix

According to statistics made available by telecom operators, there were 104 million cellular subscribers in Pakistan at the end of January, 2011 as compared to 99.2 million at the end of June, 2010 showing a net increase of 4.8 million subscribers over the last seven months.

Almost all of the cellular mobile operators have contributed in this subscriber addition and managed to maintain positive growth trend during the last two quarters.



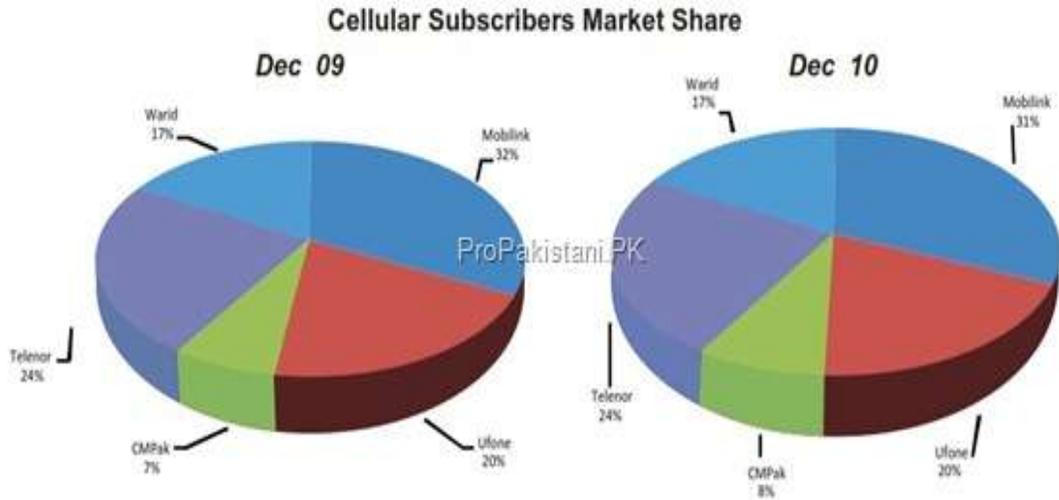
Mobilink reached 32.1 million subscribers followed by Telenor with 25.1 million cellular subscribers. Ufone performed well during the last four quarters and managed to increase its subscriber base to 20.4 million whereas Warid has 17.6 million subscribers and Zong holds 8.9 million figure till January, 2011.



4.2.3. Cellular Market Share

Cellular market is moving towards maturity, stability and intense competition as operators are dedicating their best efforts to achieve a higher stake in the overall market share. Over the last calendar year, cellular market share has not altered significantly.

Mobilink still leads the pack with 31% market share while Telenor stands at 24%. Ufone increased its market share to 20% and Warid has 17% stake in the overall subscriber base. Zong has improved its market share and reached at 8% at the end of December, 2010.

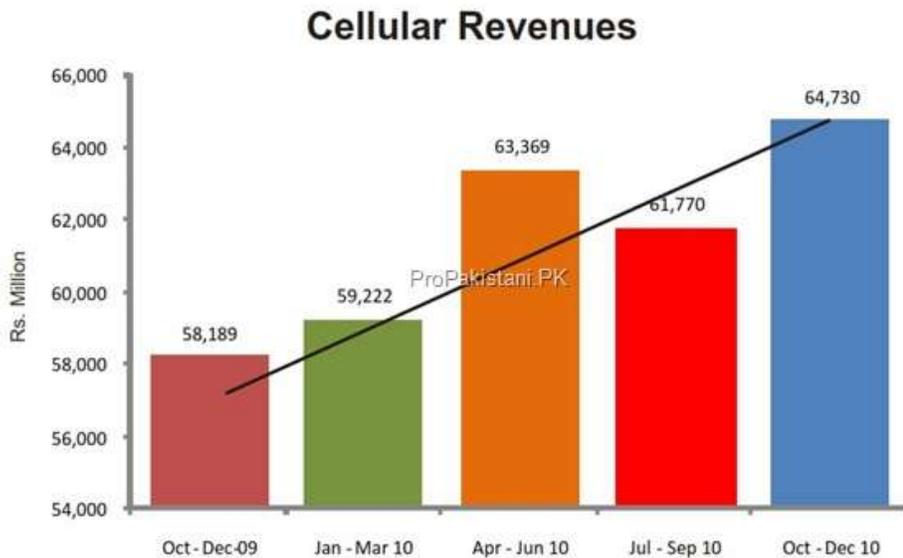


4.2.4. Cellular Revenues

Cellular revenues stood at Rs. 126.5 billion during the first two quarters (Jul-Dec 10) of FY 2010-11 as compared to Rs. 122.6 billion for the last two quarters of FY 2009-10.

Quarter-wise analysis of the revenues as shown in figure below reveals that revenues have been on the rise since the start of year 2010; however, there was a dip in the quarter of Jul-Sep 2010 due to huge loss in revenue reported by Mobilink and Telenor.

Mobilink being the SMP has the highest stake in overall revenue of the mobile cellular market. Its revenue during the last four quarters stood highest followed by Telenor. Ufone has steadily grown its revenues sitting at the third spot. Warid lies at the fourth spot while Zong is catching up.



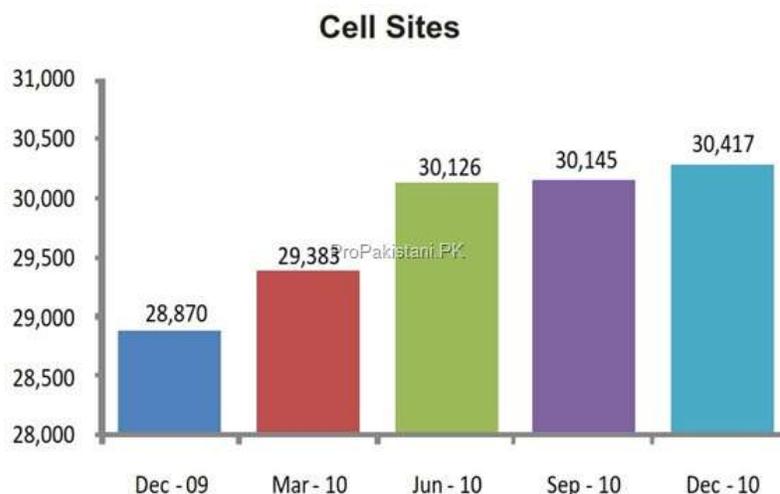


4.2.5. Cell Sites

The hallmark of the success of any service pertains to its geographical presence and coverage in a country. In case of Pakistan from hills to plains, east to west, urban to rural, cellular services have reached every nook and corner of the country.

All cellular mobile operators have collectively erected 30,169 cell sites by the end of December, 2010 as compared to 30,126 by the end of June, 2010.

Since major cities and towns have already been covered by the cellular services, therefore, the focus of cellular operators has shifted towards unexplored areas where tough physical conditions take longer than usual to install base towers.



Share of Cell Sites

Operator	Market Share	Cell Sites	Share in Total Sites
Mobilink	31%	7,952	26%
Ufone	20%	5,779	19%
Zong	8%	5,475	18%
Telenor	24%	6,692	22%
Warid	17%	4,563	15%

Above given table shows an interesting comparison of the cellular operator market share and their respective share in cell sites. Among the cellular operators, Mobilink has the highest number of cell sites i.e. 7,952 and 26% share in overall cell sites.



However, if compared with its market share of 31% and no net additions throughout the year, it is probable that focus of the company is more towards increasing its subscriber base rather than expand its existing infrastructure.

Similar is the case with Telenor, Ufone and Warid who lag behind in infrastructure share as compared to their respective market shares.

Zong is the only cellular operator which has a significantly higher infrastructure share rather than its market share. Despite being the smallest operator, Zong has focused more towards raising the network realizing the potential for future growth in the market.

4.2.6. Average Revenue Per User (ARPU)

Average Revenue Per User (ARPU) is one of the key indicators to the financial status of telecom market in any country. Pakistan's cellular companies had to face a tough time by the end of last year due to amplified fixed investments and global recession. However, the cellular industry has bounced back from this temporary shaky period and industry ARPUs are on the rise ever since.

The industry reached a collective ARPU of US\$ 2.48 by the end of FY 2009-10 and currently, it stands at US \$2.53 as of December, 2010.

With the upcoming 3G licensing, it is expected that rise in ARPU will sustain for a longer period of time as cellular operators owe to find new revenue streams via data services and Value added services.

Cellular ARPU





4.2.7. International Traffic

Cellular international traffic of Pakistan reached a record high with 3.4 billion minutes recorded in the first two quarters (Jul-Dec 10) of FY 2010-11, compared with 2.8 billion minutes during last two quarters (Jan-Jun 2010) of FY 2009-10.

This shows that cellular traffic has increased by 22% thereby establishing the fact that mobile usage is increasingly becoming the preferred medium of communication for inbound and outbound calls to Pakistan.

Total outgoing traffic trend as depicted by figure reveals the steadily growing trend of making calls from Pakistan to other destinations around the world as 0.96 billion international outgoing minutes have been recorded during the first two quarters (Jul-Dec 10) of FY 2010-11 as compared to 0.93 billion minutes in the last two quarters of FY 2009-10 (Jan-Jun10).

Similarly, international incoming traffic has also been growing continuously for the last two quarters and reached 2.5 billion minutes as compared to 1.9 billion minutes during previous two quarters (Jan-Jun 10).

The increase in traffic is attributed to the low international tariffs and bundled international packages being offered by cellular mobile companies.



4.2.8. Short Messaging Service (SMS)

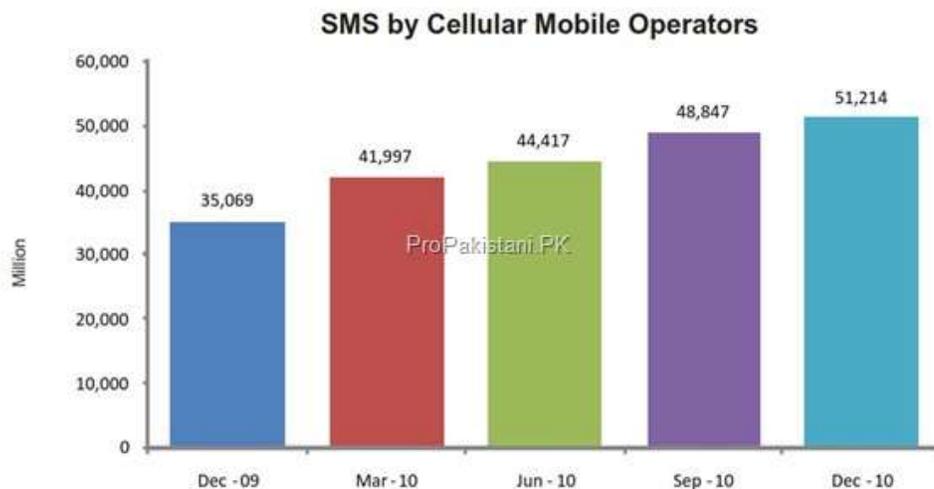
Short Messaging Service (SMS) is one of the important features of cellular mobile services and a vital source of revenue for cellular companies. Figure below shows a steadily growing trend of SMS over the last five quarters.



All cellular companies generated approximately 100 billion SMS during Jul-Dec 10 as compared to 86 billion during the preceding two quarters. This shows a 16% increase in the SMS traffic in just two quarters.

Ufone leads the SMS traffic parameters by a clear margin followed by Telenor and Mobilink. Warid and Zong have significantly low SMS traffic as compared to their competitors.

This huge rise in the SMS traffic owes largely to the attractive and wide range of bundle packages being offered by all the operators. Daily, weekly, fortnightly, monthly even unlimited packages are being offered at very low rates by cellular companies to cap the true potential of this value added service.



4.3 Banking Sector – Payment System

Payment systems are fundamental to the functioning of the economy. Their efficient functioning for allowing transactions to be completed safely and on time makes a key contribution to overall economic performance. Efficient payment systems are vital to the optimal performance of financial markets. The efficient and effective operations of payment systems are requirement for meeting both the business needs of the society and personal banking requirements of the public.

The oversight of payment systems is an integral part of State Bank of Pakistan's wider responsibilities for stability of the financial system in Pakistan. Payment Systems data provide and explain major trends in the infrastructure and indicators of settlement systems and eBanking channels.



The Payment Systems infrastructure in Pakistan has retained an overall growing trend for the second quarter of FY11 as 172 ATMs were added to the eBanking infrastructure bringing the number of ATMs in the country to the highest ever level of 4,734 while 309 more bank branches have been upgraded to Real time online branches (RTOBs). Now 7,036 bank branches are offering Realtime online banking out of total 9,483 bank branches existing in Pakistan. The number of plastic cards (i.e. ATM, Debit and Credit Cards) has also increased by 19.21% compared to the previous quarter. At the quarter end, there were 13.19 million plastic cards in circulation.

The volume and value of overall eBanking transactions in the country during the quarter under review reached 56.42 million and Rs 5.5 trillion respectively showing an increase of 7.30% in volume and 17.47 % in value compared to the previous quarter. ATM, being the largest channel for eBanking transactions, showed 5.6% increase in number of transactions and 9.5% increase in value which resulted in average value of Rs.8,804 per ATM transaction. Very significant increase was also recorded in transactions related to Real time online branches (RTOB). The number of such transactions grew by 10.59 % and value of transactions increased by 17.97%.

All other channels of eBanking, except Call Centers, also witnessed growth, but their share in the eBanking infrastructure composition was comparatively insignificant.

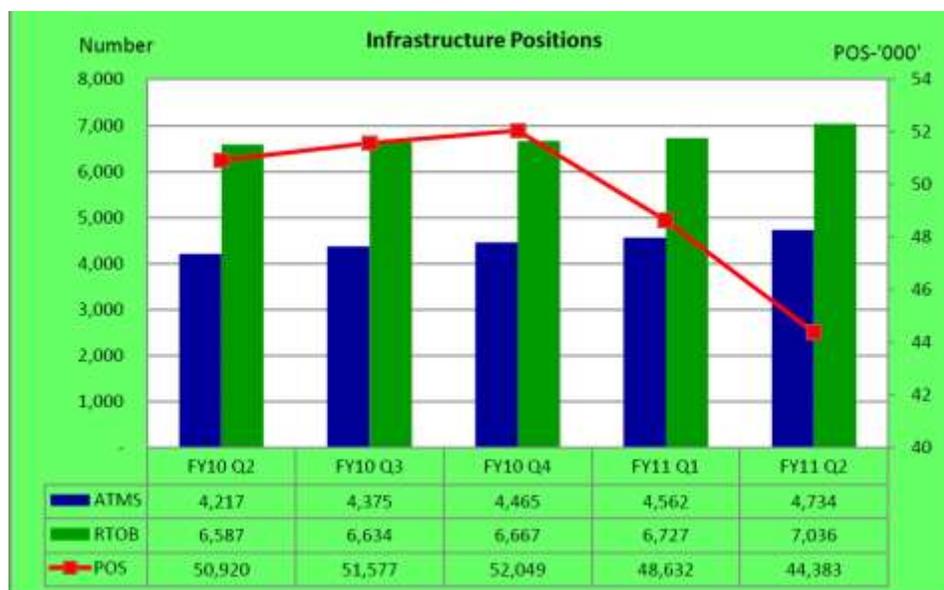
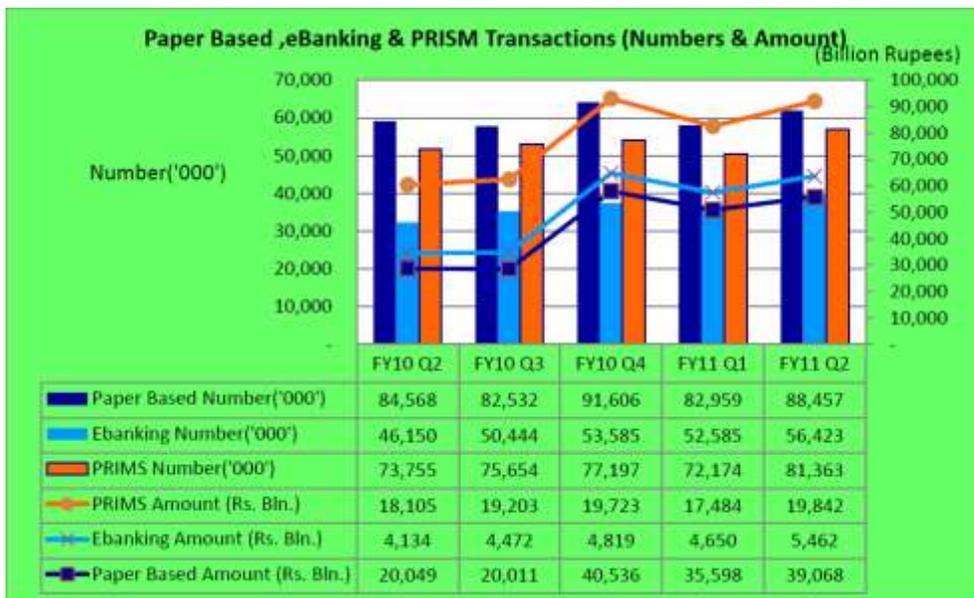
This increasing trend was also witnessed in the large value payments settled through Pakistan Real-time Interbank Settlement Mechanism (PRISM), which increased by 12.73% in volume and 13.49% in value of transactions compared to the previous quarter. The major portion of PRISM transactions, in terms of value was settlements against securities which accounted for 46% of the total transactions followed by Interbank Funds Transfers (38%) and settlement of retail cheques multilateral clearing (16%).

The volume and value of paper based retail payments during the quarter under review were 88.46 million and Rs. 39.07 trillion respectively which increased by 6.63 percent in volume of transactions and 9.75 percent in value of transactions compared to the previous quarter.

The contribution of paper based payments in total retail payment transactions was 61.06 percent in terms of volume and 87.73 percent in terms of value. The rest of the transactions originated from eBanking.



Graphical Representation of Payment Systems Data







Singapore Progress Report





SECTION 1 – GENERAL CONDITION UPDATE

1.1 eGov2015: Connecting People. Enriching Lives

In June 2011 Singapore launched its next e-government master plan (eGov2015) which seeks to bring integration of systems, processes and service delivery from within the Government to beyond the Government. The master plan will guide government agencies in implementation of new ICT programmes in the next five years.

The master plan will focus on three strategic areas:

- Co-creating for greater values
- Connecting for active participation
- Catalysing Whole-of-Government Transformation

Co-creating for greater values

A collaborative approach between the Government and the private sectors will bring about new value added services to the public. Two such services launched are data.gov.sg and mGov@SG.

data.gov.sg is Singapore's first-stop portal for access to publicly available government data. Users will be able to access more than 5,000 publicly available datasets from more than 50 public agencies, download datasets for research purposes and to create applications, as well as to search for applications that use government data.

Using mGov@SG individuals and businesses can easily search for, identify and access government m-services using their mobile devices. This will cater for the increasing population of mobile device users and their growing demands.

Connecting for active participation

Keeping in view of increased usage of social media by the citizens in Singapore, Government will try to tap on the views and resources through active engagement and consultation via these social media. These initiatives will enhance public officers' capabilities in using new media tools to engage the public.

Catalysing Whole-of-Government Transformation

This strategic area will focus on transforming the public sector and building capabilities among public sector officers. The strategy will also focus on supporting cross-agency collaboration and increased efficiency and



productivity by using shared services and infrastructure. Establishing a private cloud (G-Cloud) is one such initiative.

(Source: IDA Singapore)

1.2 Widening the Infocomm Net

Singapore's infocomm industry continues to spread its wings both domestically and internationally. The robust and reliable IT infrastructure that was put in place through National Infocomm Infrastructure (NII) initiative to meet the needs and demands of its economy and society is now being utilized to the fullest.

Some of the key figures published by Infocomm Development Authority of Singapore (IDA) in its report for Infocomm usage in households and by Individuals for 2010 are below:

84% of resident households had access to at least one computer at home. 82% of households had internet access at home. Amongst households with school-going children, 96% had computer access at home.

Some of the key figures published by Infocomm Development Authority of Singapore Infocomm usage by enterprises for 2010 are below:

Computer usage amongst all enterprises reached 79% in 2010. Internet usage by enterprises with 50 or more employees has reached 99%. The proportion of enterprises using internet has reached 77%. Overall, 41% of enterprises in Singapore had a web presence in 2010.

According to the survey, virus checking/protection software was the most commonly adopted security measure by enterprises, followed by anti-spyware software and firewall. There was an increase in both the average number of training days and spending on infocomm security education for employees.

The infocomm industry revenue grew by 8.0% to reach \$62.74 billion in 2009. Export revenue increased by 14.6% to reach \$40.44 billion in 2009. ASEAN was the top export destination with a share of 22% of the export revenue followed by North Asia with 21%.

Moving forward, Singapore is looking into the deployment of a seamless, trusted and intelligent infocomm infrastructure that will be realised through its iN2015 Master plan. Such an infrastructure will empower individuals and businesses in Singapore to engage in high speed networked, infocomm-



enabled services. In recent years, Grid Computing has already increasingly been adopted across many industry sectors such as finance and banking, interactive and digital media, manufacturing and healthcare and life sciences. There is a concerted push to accelerate the development of Grid Computing for the business and commercial sector.

1.3 Magnet for IT Companies

As an early mover in IT, Singapore ranks as the second most network-ready country in the world and No. 1 in Asia, according to the World Economic Forum's "Global Information Technology Report 2009/2010"

Because of its robust intellectual property protection regime, good logistics connectivity, and easy access to global talent Singapore attracts companies across the IT value chain. Singapore is home to more than 80 of the top 100 software and services companies. Top 15 software companies have regional or Asia Pacific headquarters here.

This critical mass of IT companies located in small geographic location creates a perfect environment for collaboration. The economic and political environment in Singapore helps these companies to nurture and grow not only in the country but across the Asia Pacific region, thereby contributing to the Infocomm economy of the region.

Singapore's strategic geographical location provides companies a vantage point for meeting the needs of a rapidly developing Asia. At the same time, the cosmopolitan environment helps attract talent from all over the world and allows for the injection of global know-how.

1.4 Front runner in business facilitation

Singapore has a long history of being at the top of world ranking for ease of setting up small business according to World Bank reports. Singapore's business-friendly bankruptcy and labour laws, its low and quick-to-file taxes, and its generally high-tech approach to everything have gained recognition from leading world organisations. A new company can now be set up in four days due to improvements in Singapore's electronic business registration service.

Singapore's world-class infrastructure, transparent business practices and liberalised telecom market have attracted major telecom operators.

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. Some of the world's most flexible immigration laws ensure that businesses can recruit offshore talent when they need it.

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'. And hand-held devices of all kinds are commonly used for business and leisure, making Singapore a 'living lab' for wireless technologies.

SECTION 2 – e-Readiness and e-Application - eGovernment/ eBusiness Related Project Updates

2.1 Enabling the Infocomm Industry

IT adoption in the government sector is championed by eGovernment Policies & Programmes Division (ePPD) and the Government Infrastructure & Technology Division (GITD). These divisions plan, architect, manage and operate the complex and diverse infrastructure needs of the various government agencies. The action plans for e-Government are synchronised with the National IT plan which aims to adopt state of art technology within the government and greatly enhance the experience of the general public in interacting with the various public service agencies.

Singapore Government through its Infocomm Development Agency (IDA) has designed various innovative, structured and economy relevant programmes which have achieved tremendous success in enabling both the public services and enterprises to effectively adopt infocomm technology. Some of these programmes are highlighted below.

The iStart:LITE (Leveraging International Technology for Entrepreneurship) programme, a pilot grant scheme which aims to encourage start-ups in Singapore to accelerate technology commercialisation by leveraging internationally proven technologies. iStart:LITE focuses on enhancing start-up business viability by leveraging established cutting-edge technology to overcome the valley-of-death phase that start-ups face.

The iBEST (Infocomm Business & Engineering Start-up) programme provides developmental support for global venture capital backed ICT enterprises to



establish new engineering centres in Singapore. IDA co-funds approved projects, helping to do more with their development budgets.

The TECS (Technology Enterprise Commercialisation Scheme) is a grant scheme that is jointly administered by IDA and Spring Singapore. The scheme aims to catalyse the formation of new technology start-ups in Singapore. Innovative technology enterprises are supported by this grant which addresses early-stage funding gaps, enabling them to grow past their embryonic phase, secure third party funding, and achieve growing revenues.

Infocomm Local Industry Upgrading Programme (iLIUP) promotes strategic, mutually beneficial partnerships between Singapore's infocomm companies and infocomm multinational corporations (MNCs). iLIUP's underlying principle is to foster partnerships that result in enhancing local infocomm capability and competitiveness and translating these into increased market share and revenue for MNC partners.

Governments new initiative called Standard ICT Operating Environment (SOE) aims for a standard ICT operating environment which will save the public service substantial costs by reducing ICT manpower costs, increase agility and robustness of ICT infrastructure, and enhance user convenience. With a common ICT environment, systems can also be deployed centrally, swiftly and at lower cost, as there is no need to duplicate testing effort of the common environment across multiple agencies. The SOE programme comprises of a standard desktop operating environment, a standard messaging & collaboration environment and a standard network environment.

Critical Infocomm Technology Resource Programme (CITREP) is a training incentive programme to equip Singapore infocomm professionals with critical and emerging skills, thus enabling them to enhance their employability and to improve their organisations' competitive advantage. From 1 April 2011, CITREP has been expanded to cover new and emerging areas, such as Business Analytics, Cloud Computing and Green Infocomm. The aim is to deepen the capabilities of infocomm professionals and to ensure that Singapore's infocomm manpower continues to remain competitive with the developments in the industry globally and within Singapore.

SECTION 3 – Other advanced applications - IT - enabled Service (ITeS)

3.1 data.gov.sg

data.gov.sg is the first stop portal to discover publicly-available government data, where people can access more than 5000 publicly-available datasets from more than 50 public agencies, tap into selected datasets to create



applications or conduct research, and look for interesting applications developed using government data.

data.gov.sg has the following features:

- Data Catalogue for the public to search for and download government data
- Applications Showcase featuring applications developed by students, start-ups and public agencies using government data
- Resource page to support the efforts of application developers

Some of the benefits of data.gov.sg are

Easier to discover government data: While many public agencies are already sharing publicly available data and statistics on their websites and publications it is not easy for the public and researchers to locate them. data.gov.sg seeks to provide convenient access to these data through an easy-to-use Data Catalogue.

Catalysing applications development: Most of the government data published is currently in non-machine-readable formats. data.gov.sg seeks to make more government data available in machine-readable formats over time so that application developers can use them to develop innovative applications and services. Developers can also list their applications at the data.gov.sg Applications Showcase for sharing with a wider audience. Some examples of data that can be used to create applications are:

- Weather Data, such as NEA's weather updates
- Geospatial Data on the location of amenities such as the location of Recycling Bins and Hawker Centres, Kindergartens and Childcare Centres from agencies like NEA and MCYS.
- Real-time Traffic Data, such as LTA's traffic camera updates.

(Source: Fact Sheet data.gov.sg)

3.2 Infocomm@SeaPort

The Infocomm@SeaPort programme is collaboration between the Infocomm Development Authority of Singapore (IDA) and the Maritime and Port Authority of Singapore (MPA). The programme aims to speed up business transformation and operational excellence in the port community through the use of innovative infocomm technologies. The programme forms part of IDA's



Intelligent Nation 2015 IT Masterplan to transform Singapore into an intelligent nation and global city using infocomm. Enhance the connectivity and communications between players in the seaport community. The main goal of this project is to promote operational and service excellence and increase opportunities for the seaport community to attract new businesses.

Wireless-broadband-access at SEAPORT (or WISEPORT) project is collaboration between MPA and IDA under the Infocomm@Sea Port programme to offer mobile wireless broadband network within 15km from Singapore's southern coastline, to allow real-time and data-intensive communications between the ships and their customers and business partners. WISEPORT aims to provide high bandwidth, low-cost and secure communications channels for ships in our port within the coverage zone to more than 13,000 vessels that navigate through Singapore waters annually.

(Source: IDA Singapore)

3.3 OneInbox

OneInbox is the official Government platform where individuals and businesses can receive all their government related correspondences electronically, instead of hardcopy letters.

Besides providing one-stop convenience to individuals and businesses, OneInbox will also offer potential cost savings to agencies by reducing the need for hardcopy correspondence. The proposed features for OneInbox are:

- Login via SingPass
- Email/SMS alerts to notify the arrival of correspondences in OneInbox
- Forwarding to preferred email account(s)
- Save a local copy/print friendly version of correspondences
- Online archival/retention of correspondences
- Hyperlink to agencies' e-payment systems if payment is required
- Hyperlink to agencies' other e-services in response to the correspondence; and
- Allow agencies to confirm receipt of correspondences sent.

OneInbox is expected to bring greater convenience to individuals and businesses, by providing a one-stop access to all correspondences from government agencies in place of hardcopy letters. To the individuals who travel frequently, and to the approximately 180,000 Singaporeans living abroad, OneInbox allows them to access government correspondences instantly, even when they are not in Singapore.



OneInbox also allows individuals and businesses to access the history of letters they received from the government, and eliminate the need for them to call up the agencies should they misplace their hardcopy letters.

Through the integration of the OneInbox with e-services of government agencies, it will also allow individuals and businesses to perform transactions with the government immediately upon receiving the electronic correspondence. The integration with government e-services provides convenience by connecting the receipt of a notification directly to the action to be taken.

(Source: Fact Sheet May 2010 released by IDA)

3.3 mGov@SG

mGov@SG is a one-stop Government mobile site that aggregates different types of Government mobile services (m-services). It brings together mobile browser-based, native application based and SMS-based services to facilitate individuals and businesses in searching for and identifying m-services provided by the Government.

The first phase will have device-aware capability to filter and surface m-services that are relevant to the mobile device, and optimise the site's on-screen display. Featured listings on mGov@SG also allow users to zoom in quickly on popular m-services and recent additions to the site that are compatible with their mobile devices.

mGov@SG will offer several ways for users to find the m-services of their choice like categories, organisations, quick search, discover all features.

(Source: www.eGov.gov.sg)

3.4 OneMap

OneMap is the first major application of the Singapore Geospatial Collaborative Environment (SG-SPACE) initiative. SG-SPACE is a whole-of-government initiative to create an environment in which the public and private sectors and the community can collaborate and create a wide range of innovative applications and services using geospatial or map-based information.

Built on Web 2.0 technologies, OneMap makes it convenient for users to leverage on its base maps to create new applications with their own data through the use of an Application Programming Interface (API). This allows sharing of spatial content using internet services, accessible on desktop and mobile platforms.



OneMap is a multi-agency collaborative initiative. Participating agencies include the Infocomm Development Authority, Land Transport Authority, Ministry of Community Development, Youth and Sports, Ministry of Education, Ministry of Information, Communications and the Arts, Ministry of Law, National Arts Council, National Environment Agency, National Heritage Board, National Library Board, National Parks Board, People's Association, Singapore Land Authority, Singapore Sports Council, Singapore Tourism Board and the Urban Redevelopment Authority.

Going forward, more public agencies are expected to come on board to contribute new geospatial information and services. The vision is for this intelligent map portal to be a platform for the geospatial industry and community ecosystem to evolve and grow, and for the private sector and individuals to create value-added services.

(Source: www.eGov.gov.sg)

3.5 The Government Cloud (G-Cloud)

The Government Cloud (G-Cloud) provides a resilient and secure ICT shared environment that allows government agencies to procure computing resources on-demand, with greater ease and speed.

The Government currently has a whole-of-government infrastructure to provide shared computing resources to government agencies on an "as-a -service" subscription model. Central G-Cloud will provide efficient, scalable and resilient cloud computing resources and will be designed to meet two levels of security and governance requirements:

- High Assurance Zone – a physically dedicated computing resource pool which will only be used by Government to serve its high assurance needs.
- Medium Assurance Zone – a computing resource pool which will be shared with non-government cloud users to lower cost computing resources for Government.

Central G-Cloud will provide central services such as government web service exchange, and gateways to other critical Government services. To further aggregate whole-of-government demand to maximise cost savings to Government, the Government will identify and provide common services, such as customer relationship management and web content management, as software-as-a-service offerings on G-Cloud.



Central G-Cloud enables standardisation, and sharing of computing resources and applications at the whole-of-government level, thereby generating cost savings to Government.

(Source: www.eGov.gov.sg)

3.6 The e-Visitor programme

The e-Visitor programme is an innovative programme that consists of a spectrum of e-services with streamlined processes to make it more convenient for foreigners to visit and stay in Singapore. The e-Visitor programme allows foreigners to apply for a wide range of immigration facilities, such as an extension of stay, application of visa, long-term visit pass or student's pass from the comfort and the ease of their own home. The programme brings about \$1.2 million per year in cost saving and cost avoidance for the government and a total estimated saving of \$2.1 million per year to the customers. It's estimated that the programme brings about 1 million hours reduction in waiting time.

The process kicks in even before a visitor arrives in Singapore with SAVE (Submission of Application for Visa Electronically), an online visa application portal, which allows a visa required national to apply for an entry visa via internet. Used in tandem with e-Visa, one can easily print the visa from home without the need for the local sponsor to courier the physical visa stickers to the applicants. Once the visitor arrives in Singapore, extension of visit pass can also be applied using the e-XTEND (Electronic Extension of Short Term Visit Pass) system.

The programme also looks into the needs of visitors who seek long-term stay, with e-VP (Online application for long term Visit Pass) and SOLAR/SOLAR+ (Student's Pass Online Application and Registration). The systems reduce the need for applicants to make multiple trips to the Immigration Offices. These e-services are fully-integrated with our e-appointment system where a pre-allocated appointment will be given to the successful applicants to minimize their waiting time. In summary, the seamless e-Visitor programme integrates the multiple functions for visitors to create a delightful and wholesome experience on their stay in Singapore.

(Source: www.eGov.gov.sg)

3.7 Infocomm Security Masterplan 2 (MP2)

The Infocomm Security Masterplan 2 (MP2), launched in 2008, is a five-year roadmap which aims to build upon the achievements of the first Masterplan



by enhancing the tenacity of our economy against cyber attacks, thereby boosting the confidence of investors in choosing Singapore as a strategic and secure location for their investments.

Developed through a multi-agency effort led by IDA, under the guidance of the National Infocomm Security Committee, the five-year Masterplan will see the public, private and people sectors working even more closely together to secure Singapore's cyber space.

To achieve the objectives of MP2, some of the key initiatives include:

The Association of Information Security Professionals (AISP), which is a Government and Industry collaboration which aims to transform infocomm security into a distinguished profession and build a critical pool of competent infocomm security professionals who subscribe to the highest professional standards. The first such association in Asia, it hopes to elevate the standing, professionalism and trust accorded to security practitioners here.

The National Infocomm Scholarship for Infocomm Security support one of the Masterplan's strategic thrusts to enhance infocomm security competencies. It aims to groom scholars in the area of infocomm security and to help ensure that the industry has a fair share of top talents. Through this initiative, scholars have the opportunity to be nurtured by leading infocomm security multinational corporations, local companies and Government agencies during their studies. This includes mentorship with companies and work stints overseas of up to six months.

The Cyber Security Awareness Alliance was established to raise Singapore's infocomm security competency among the public, private and people sectors. It amalgamate efforts from its members by bringing together different strengths and resources to build a positive culture of cyber security in Singapore where infocomm users adopt essential security measures such as firewall and anti-virus software. It also has programmes to raise awareness and adoption of essential infocomm security practices in the private and people sectors.

The Cyber Security Exercises enhance the emergency readiness and responsiveness to large-scale cyber-attacks at the national level. These exercises serve as a mechanism to assess our capability and readiness to respond and recover from debilitating events that cause widespread disruptions. In addition, these exercises will also help to identify areas that will further improve the resilience of our national infrastructure and services.



The Sector-Specific Infocomm Security Programmes assess and develop customised solutions that meet the unique security requirements of each sector. It will start with the Government, Infocomm and Energy sectors as earlier assessment from the first Masterplan has shown these sectors to be among the most critical in Singapore.

3.8 Next Generation National Broadband Network (NGNBN)

The Next Generation National Broadband Network (Next Gen NBN) is the wired network of the Next Generation National Infocomm Infrastructure (Next Gen NII), a project under the Intelligent National 2015 (iN2015) master plan to transform Singapore into an intelligent nation and global city, powered by Infocomm.

It will entrench Singapore's infocomm hub status and open doors to new economic opportunities, business growth and social vibrancy for the country. It is envisioned that Next Gen NBN will eventually provide nation-wide ultra-high speed broadband access of up to 1Gbps and more to all physical addresses in Singapore, including homes, schools, Government buildings, businesses and hospitals. At the start of its operations, the Next Gen NBN is expected to offer users broadband speeds of at least 100 Mbps.

In the near future, there will be a range of services riding on the Next Gen NBN that will empower business users at the workplace, as well as users at homes, schools and learning institutions.

The NGNBN has 4 industry Structures layers:

- **Passive Infrastructure:** Including wire lines and ducts which will be operated and managed by Passive Infrastructure company (NetCo).
- **Active Infrastructure:** Including switches and routers be operated and managed by Active Infrastructure Company (OpCo).
- **Service:** Retail Service Providers (RSPs) will purchase bandwidth from OpCo.
- **Consumers:** who will be the end users of the service.

OpenNet Consortium and Nucleus Connect have been selected as the NetCo and OpCo respectively by the Singapore Government. Both these companies have commenced their commercial operations in April 2010 and Aug 2010 respectively.



3.9 TradeXchange®

TradeXchange® is a neutral and secure trade platform that facilitates the exchange of information within the trade and logistics community.

Launched in October 2007, TradeXchange® provides seamless inter-connectivity among commercial and regulatory systems for the Singapore trade and logistics community. In addition, it offers a single electronic window for integrated workflow, submissions and enquiries to the Sea Ports, Airports, Maritime Authorities, Customs and Controlling Agencies.

TradeXchange® is a multi-agency initiative led by Singapore Customs, Economic Development Board and Infocomm Development Authority of Singapore

With TradeXchange®, the trade and logistics community will enjoy simplified and seamless trade transactions through a single interface. It will enhance Singapore's position as the logistics and trading hub for the region and create new sources of growth, hence propelling the Singapore trade and logistics sector to the next level of competitiveness. The key benefits of this system are : Single interface to multiple systems , Simplified trade information exchange , Faster trade documentation processing , Reduce errors with minimised data re-entry ,Improved efficiency ,lower business costs ,Increased global competitiveness

TradeXchange® is an IT project initiated by Singapore Customs, Economic Development Board and Infocomm Development Authority of Singapore, and is the first IT project in Singapore to be implemented as a Public Private Partnership (PPP). CrimsonLogic Pte Ltd has been appointed by the Singapore Government as an independent contractor to develop, operate and maintain as well as drive the adoption of this project. CrimsonLogic is working with other content and service providers to offer the TradeXchange® services.



Thailand Progress Report



Ministry of Information and Communication Technology



Section I - General Status Update

I. Background

Article 78 of the Constitution of the Kingdom of Thailand B.E. 2550 (2007) calls for the state to undertake public administration in order to develop the society, economy and security of the country in a sustainable manner. This includes the creation and provision of public services, public utilities, and comprehensive local information infrastructure that is equal throughout the country. The government has tabled to the Parliament on 29 December 2008 its policy to develop a universal communication network and to allow people to have equitable access to such services. The government has also developed the Information and Communication Technology Policy Framework (2011-2020) or ICT 2020 in order to serve as the framework for developing ICT. The Framework targets delivering ICT infrastructure as a basic public utility that all citizens can access universally, with world-class quality and security standards by the year 2020.

The government is aware of the role and significance of developing broadband service within the scope of the ICT 2020 Policy Framework as part of the country's development, in terms of the economic and social dimensions, public services, environmental protection and also safety and security for people's lives and Broadband service will contribute to the continuous expansion of Thailand's Gross Domestic Product (GDP). It is also an important element of telecommunications, broadcasting and television businesses. In any case, the development of the country's broadband service is still in a rudimentary state at the moment, when compared to other countries. Broadband is only utilized by 3.5 percent of the population, who are mainly clustered in the capital and big cities. This has led to the problem of inequality and digital divide between the urban and rural population, and is also a factor that impacts on the competitiveness of Thailand in the long term.

As such, the government has established the National Broadband Policy in order to ensure clarity and to serve as a framework for implementing and driving the development of broadband service which will make use of diverse technologies, be advanced and up-to-date, and in tune with the context and situation of Thailand. In addition, it will also answer the needs of all sectors, with the government setting the policy and supporting the creation and use of broadband in a comprehensive and equitable manner. Furthermore, it will also promote the participation of the private sector and people in successful implementation. An independent supervising body, in accordance with the law, will oversee the operation of enterprises to ensure free and fair competition.



II. National Broadband Policy

(1) The government intends to support the development of broadband service, which is considered an important fundamental public utility for the people, in a manner that is universal, sufficient, at a reasonable cost, and under conditions of free and fair competition.

(2) Every Thai person should be able to fully access and make use of the improved broadband service, which will help to reduce inequality and narrow the digital divide, in both geographic terms and among groups of people. It will help bring progress to all regions of the country and enhance the quality of life of the people.

(3) The government and private sector should be able to fully access and make use of improved broadband, in order to sustainably improve national productivity and competitiveness.

(4) In developing broadband service, the government will manage telecommunications resources in which the government has already invested, and in which it may continue to invest, in order to benefit all telecommunications businesses in an impartial manner. The management system will be improved to achieve higher productivity. The government will not monopolize the market as the sole investor providing various services, but will open up the opportunity for all enterprises which have the intention and the capacity to invest in service provision. In sum, this will lead to a broadband network for the whole country, with free and fair competition in service provision.

(5) In all matters related to national sovereignty, for instance, satellite orbit positions, underwater cable landing points, or the connection points of trans-boundary networks, these will be considered important for national security and will be the right or property for the state to utilize for the highest benefit. In meeting domestic needs and in building capacity and opportunities for international cooperation and trade, the government will establish policies and supervise the implementation of the policies. Private sector enterprises will participate in investing in providing such services.

(6) The government will support both fixed-line and wireless last-mile telecommunications businesses, ICT businesses, content producers, broadcasting businesses, television businesses and e-commerce businesses.

III. Objectives

(1) Develop the broadband network to provide access to at least 80 percent of the population by 2015 and at least 95 percent by 2020, ensuring standard quality of service and reasonable service fee. In addition, cities that



are economic and regional hubs should have high-speed fiber optic cable broadband with a minimum speed of 100 Mbps by 2020.

(2) People should be able to universally and equitably access education, public health, disaster monitoring and warning, and other public services through a broadband network in order to reduce inequality in accessing public services and knowledge, through the following:

- (a) Increase education opportunities by allowing sub-district-level schools to access quality broadband service by 2015 and schools around the country to access these services by 2020.
- (b) Expand public health services by ensuring that all sub-district hospitals and health centers can access broadband service of equal or comparable quality to the service in provincial hospitals. Furthermore, ensure connection and provision of health insurance and social security services through the broadband network by 2015.
- (c) Expand e-government services through the broadband network, with all sub-district administrative organizations in the country able to access broadband service of equal quality compared with provincial administrative organizations and central government agencies. This will allow people in all sub-districts to avail of various services provided by the e-government system at all times by 2015.
- (d) Put in place a national disaster and emergency monitoring and warning system on a broadband network, which will allow the people to have accurate information in a timely manner.

(3) The Thai business sector can access and utilize the broadband network in a universal and equitable manner to enhance national competitiveness and economic growth in a balanced and continuous manner. The broadband network will be a major factor in developing the Thai economy through the following:

- (a) Enhance national competitiveness of technological infrastructure to be in the top 25 percent of countries in the World Competitiveness Rankings.
- (b) Economic growth that uses creativity, design, and new services can be carried out in all parts of the country through the broadband network, which will lead to disseminating revenue in non-urban areas.
- (c) E-commerce will expand to account for 10 percent of GDP by



2015.

(4) Reduce energy consumption and resource use by communicating or accessing information jointly through broadband service in the manufacturing and service sector, which will lead to better environmental protection and reduce global warming.

(5) Reduce overall broadband service delivery cost, especially in connecting to international circuits and delivering broadband to users, in order to reduce broadband service fee. Broadband consumers can access the service in a more widespread manner.

(6) Content and applications will be developed for education, public health, personal and property protection, religion and culture, environmental protection, and modern lifestyle, along with enhancing business competitiveness.

(7) People will have knowledge and understanding about the value and risks of using ICT which are accelerating due to the expansion of broadband service. They will also have knowledge and skills in using broadband in a creative and productive manner.

(8) The ICT manufacturing industry will develop, grow and upgrade its products to meet world-class standards.

Section II – EDIFACT / ebXML/ XML Based Standards Development

I. KTB INVEST SMART CARD (KTB Oil Fund Card & KTB Gold Invest Card)

In order to become Thailand's leading financial institution, Krung Thai Bank Public Company Limited (KTB) develops policies and strategies following its mission to provide excellent services, create sustainable returns, promote intellectual capital, and adhere to good corporate governance. One of KTB's key success factors is to develop innovative products and services in order to provide the highest satisfaction customer experience. This will increase our customer loyalty and create brand awareness.

As KTB's vision is to become the Convenience Bank for Retail, Business, Government and Institutions, KTB has recently launched the new product innovation known as "KTB Invest Smart Card" (KTB Oil Fund Card & KTB Gold Invest Card). The KTB Invest Smart Card has been registered a patent in Thailand on 12 November 2009. This new product is a convenient tool for customers who would like to manage their investment without any



hassles. KTB Gold Invest Card holders can buy and sell their gold investment funds anytime and anywhere via ATM, ADM, and the Internet. KTB Oil Fund Card holders can benefit from the same convenience as KTB Gold Invest card holders to buy and sell their oil investments. In addition, holders of both cards can enjoy convenient spending by using these cards as their debit cards. These new fund and investment cards will shape customers' experiences by embedding the fundamental value proposition in offering self-service and real-time investment.

To develop the Smart Card system to meet the international standard, Krung Thai Computer Services Co., Ltd., (KCS), one of KTB's subsidiaries, has the expertise to contribute to hardware and software development and User Acceptance Testing by KTAM and KTB.

In the project, KCS developed the KTB Oil Fund Card and KTB Gold Invest Card software product from the recognizable software technologies: JAVA, APPLET, TAL, and COBOL. They combine the technology of Web Service, a standard interface, and the ISO-8583 (Base I), the international standard together. They use Web Service interface between the Selling Agent System and the CBS system including the ISO-8583 (Base I) interface COSES/BASE24 System to the Selling Agent System.

The project aimed to achieve all three interoperability dimensions. The major steps performed in the project are as follows:

- Defining business processes and data elements;
- Modeling the business processes using UN/CEFACT Modeling Methodology (UMM) version 1.0;
- Harmonizing and simplifying data following UN/CEFACT recommendation 34;
- Standardizing data and developing core components by UN/CEFACT CCTS;
- Defining and developing XML schema and ISO-8583 based on the core components standard following XML and ISO-8583 Base I Naming and Design Rule;
- Analyzing Selling Agent and legacy systems;
- Developing web services and ISO Interface modules and implementing web service ISO technology;
- Testing the interoperability systems.



Section III – e-Readiness and e-Application – e-Government / e-Business Related Project Updates

I. The improvement of service in Social Security Office (Thailand) via Thai citizen identification smart card (call: SSO Smart Service)

Since 2005, Social Security Office (SSO) has provided many electronic services to customers via the Internet access. The limitations of the e-service system in SSO are too many processes, security of personal data and payment method, especially the big concern is security of individual personal data. Indeed this can be improved by the use of Thai identification card (smart card) for authentication and authorization.

The outstanding of this system is that the system was developed by the officers in the organization without increasing the budget and by using the data through the web service of the organization. In addition, the system is working through a smart card reader machine that costs only three hundred baht.

Section IV – Other Advanced Applications – IT – enabled Service (ITeS)

I. Leverage Social Media for PR and Knowledge Sharing

These days, it is simply not enough for an organization both private and public to do marketing and public relations through traditional marketing tools such as television, radio, newspaper. These mediums might be considered as effective tools but still it has many loopholes like cost of doing marketing is very expensive, it is one-way communication, it cannot be used as internal communication tool etc. Social Media is a marketing tool which has the ability to overcome these problems.

Social Media gives us a wide options from where the organization can select the best medium of marketing and PR website according to the trend of the given geographical areas, age and gender of customers. Facebook, Twitter, YouTube, StumbleUpon, LinkedIn, Wikipedia etc. are the leading social networking websites which have ruled the minds of the people to get them more socialites on the world stage.

In this project, Ministry of Justice, Thailand has done an intensive research and found that Thai people whose age range between 18-50 get the news and information mostly from the social websites and they also prefer Digital Media over Newspapers, TVs or Radio because most of them spend the whole time in colleges, universities and their workplace where they have



no access to these communication tools. During the research, we also found that Digital Media now are in the trend and where we found most of the people are on Social Media websites like Facebook, YouTube, Twitter, Google Plus, and other Social websites.

The project objective is to make the people aware of the activities carried by Ministry of Justice and its 13 departments. We are making an Information Hub where the news or related information from our ministry and the departments will be display here. We have developed an application so that our ministry and department will manage and share the information to entire social media websites easily.

II. Online Digital Talking Book Library

As we all know that information and knowledge are very important for everyone even for people with disability. There are many types of disability that human is facing nowadays. Each type of impairment has the specific difficulties of accessibility to information, for example, the blind has the accessible problem about visualization. However, the useful assistive technologies can practically help the handicap people to access groups of information by converting undetectable sections to imperceptible sections. In the blind case, the technology for converting from text to speech is very helpful for them. Unfortunately, the information has been stored in difference formats and locations. Most of them are available in the internet but the useful knowledge still has been commercially stored in the paper-based book which is hardly accessible for the blind.

Due to the arrival of affordable broadband Internet access in Thailand, online delivery method of the Digital Talking Book (DTB) which includes a bunch of MP3 and XML files over the Internet to the blind sounds feasible. Moreover, DHTML — a client-side scripting language, makes web browsers interactive enough to navigate the blind during the reading time. According to these two technologies, it is possible to use a web browser as the client tier to access the DTB in blind libraries around the world over the Internet. The successful development of this online delivery project leads to the new era of the Talking Book for the blind which has been in the cassette-based system since 1937.



VietNam Progress Report

Vietnam e-Commerce and Information Technology Agency (VECITA)

Ministry of Industry and Trade



SECTION I - GENERAL CONDITION UPDATE

Year 2010 is the last point of time implementing the Decision No 222/2005/QĐ-TTg dated 15 September 2005 by the Prime Minister on approving the Master Plan on E-commerce Development for the 2006 – 2010 Period (Decision 222)

In 2010, Vietnam's economy is strongly influenced by many factors such as the slow and unstable recovery of the world economy...; public debt, great budget deficits in the Europe, the United State of America, Japan; high unemployment rate, inflation, hot growth, ... of emerging economies such as China, India; the tendency of trade protectionism strengthening in the world, ...

Within the country, the economic – social situation enjoys favorable conditions: by the end of 2009, the country's economy regained its robust momentum of growth; macro-economic balances are stable; inflation is under control. However, Vietnam also faces a lot of difficulties and challenges such as unstable growth of the economy, potential possibility of high re-inflation, huge trade deficit, low competitiveness of enterprises and the economy,...

In this context, the Government has issued many strong policies and measures and organized implementation seriously in order to fulfill goals of the Plan on economic – social development for 2010. Being supported by State, enterprises have made efforts to gain stability, expand production and business; promote developing the domestic market and strengthen searching for new export markets. As a result, in 2010, with the close and drastic guidance of the Government, the consensus and response of enterprises and the whole people; Vietnam's economy continue remaining stable with the GDP growth as of 6,78%.⁵ In the circumstance of 2010, e-commerce has acclaimed its important role as an effective tool for enterprises to look for customers, consolidate the customer relationship, reduce costs of production and business, ...

The Vietnam E-commerce Report is written basing on the overall assessment of the implementation of goals and key solutions of the Master Plan on E-commerce Development for the 2006 – 2010 Period, the current situation of e-commerce application of enterprises in 2010. The Report also generalizes, analyzes and presents opinions about online marketing, a way of e-commerce application which has been developing strongly in recent years. Moreover, in the Vietnam E-commerce Report 2010, there's an individual chapter to address the information security, one of the top obstacles to the

⁵ Source: Resolution of the Regular Government Meeting in December 2010.



Vietnam's e-commerce development. On that basis, the Report indicates some recommendations in order to implement effectively the Master Plan on E-commerce Development for the 2006 – 2010 Period issued at the Decision 1073/QD-TTg by the Prime Minister dated 12 July 2010.

The Overview will look into the most striking features of Vietnam's e-commerce after five years implementing the Master Plan on E-commerce Development for the 2006 – 2010 Period.

E-commerce market forecasted to US \$6 bill by 2015: VGP – Viet Nam's total e-commerce will reach US \$6 billion by 2015, according to forecast economic experts at a seminar hosted by the Viet Nam Chamber of Commerce and Industry in Hanoi on August 2.

A research found that 58% of nearly 30 million Internet users go online to find out information related to commodities they plan to buy before making decision.

This offers chances for Viet Nam's e-commerce industry to grow. By 2015, the total production of e-commerce would value US \$6 billion including US \$2 billion of e-commerce transaction. At the event, the delegates shared solutions for a comprehensive and safe online payment, a prerequisite factor for the development of e-business in the future./.

Source: <http://news.gov.vn/Home/Ecommerce-market-forecasted-to-US-6-bln-by-2015/20118/11229.vgp>

1.1 LEGAL SYSTEM FOR E-COMMERCE HAS BEEN FORMED

From 2005 up to now, after the Prime Minister's approval of the Master Plan on E-commerce Development for the 2006 – 2010 Period on 15th September 2005, the Vietnam's system of legal texts con e-commerce has been constatnly added and improved.

The first legal text governing e-commerce is the Law on Eletronic Transaction issued by the National Assembly in November 2005, creating a legal foundation for electronic transactions through recognition of the legal effects of data messages and regulations on e-signature. In 2006, the National Assembly promulgated the Law on Information Technology defining specific provisions on the application and development of information technology; measures to develop the infrastrucutre of this field; powers and responsibilities of agenices, organizations, individuals participating in these activities.

The birth of the Laws on E-transactions and Information Technology has created a basis for the Government and ministries to promulgate bylaw



documents to govern specific areas of electronic transactions. From 2006 to 2010, seven decrees were issued, including: Decree on E-commerce, Decree on digital signature and C/A services, Decree on electronic transactions in financial activities, Decree on electronic transactions in banking activities, on information technology application in Government agencies, Decree on anti-spam, Decree on the management, provision and use of Internet services and electronic information on the Internet. Ministries also promulgated many legal texts guiding the detailed implementation of these above decrees.

Additionally, the sanctions framework for handling administrative violations related to e-commerce and information technology has been also improved with the Decree No 63/2007/ND-CP on administrative sanctions for violations in information technology issued in 2007, Decree No 06/2008/ND-CP on administrative fines in commercial activities issued in 2008, and Decree No 28/2009/ND-CP dated 20 March, 2009 of the Government on sanctioning of administrative violations in the management, provision and use of Internet issued in 2009. Moreover, the National Assembly approved the Law on amendment and supplementation of some articles of the Criminal Code, adding some acts of crime and raising the penalty frame towards acts of high-tech crime, including crimes in the field of e-commerce.

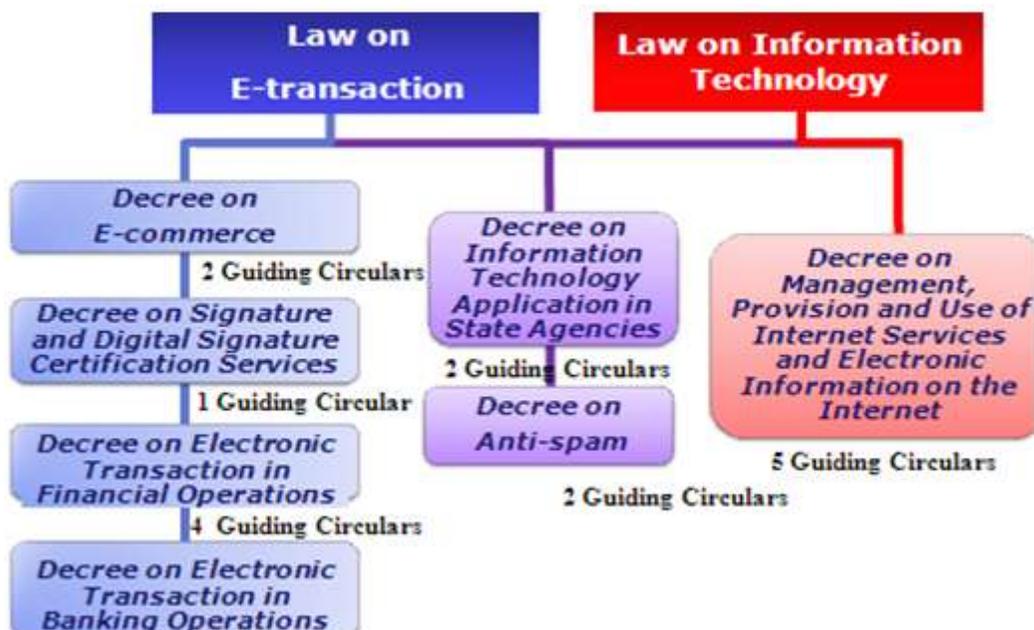


FIGURE 1: LEGAL SYSTEM ON E-COMMERCE



TABLE 1: LEGAL DOCUMENTS FOR E-COMMERCE AND ELECTRONIC TRANSACTIONS IN VIETNAM (UPDATE TO AUGUST 2011)

Law		
29/11/2005	Law on Electronic Transactions	
29/06/2006	Law on Information Technology (IT)	
23/11/2009	Law on Telecommunications	
Decree providing guidance on law		Overriding text
09/06/2006	Decree No.57/2006/ND-CP on E-commerce	E-transaction Law
15/02/2007	Decree No.26/2007/ND-CP guiding the implementation of the E-transaction Law on digital signature and C/A services	E-transaction Law
23/02/2007	Decree No.27/2007/ND-CP on electronic transactions in financial activities	E-transaction Law
08/03/2007	Decree No.35/2007/ND-CP on electronic transactions in banking activities	E-transaction Law
10/04/2007	Decree No.64/2007/ND-CP on information technology application in Government agencies	E-transaction Law and IT Law
13/08/2008	Decree No.90/2008/ND-CP on anti-spam	E-transaction Law and IT Law
28/08/2008	Decree No.97/2008/ND-CP on the management, provision and use of Internet services and electronic information on the Internet	IT Law
Handling of violations		Overriding text
10/04/2007	Decree 63/2007/ND-CP on administrative sanctions for violations in information technology	IT Law
16/01/2008	Decree No 06/2008/ND-CP on administrative fines in commercial activities	Trade Law
20/03/2009	Decree No.28/2009/ND-CP dated March 20, 2009 of the Government on sanctioning of administrative violations in the management, provision and use of Internet	IT Law
Circular guiding the implementation of some provisions in decrees		Overriding text
21/07/2008	Circular No.09/2008/TT-BCT guiding the E-commerce Decree regarding information supply and contract conclusion on e-commerce websites	Decree 57/2006/ND-CP
15/09/2008	Circular No.78/2008/TT-BTC guiding the implementation of Decree No.27/2007/ND-CP of 23 February 2007 on e-transactions in financial activities	Decree 27/2007/ND-CP



12/11/2008	Circular 05/2008/TT-BTTTT by Ministry of Information and Communication guiding some articles of Decree 97/2008/ND-CP dated 28/08/2008 on managing, providing, and using Internet services and electronic information on the Internet	Decree 97/2008/ ND-CP
18/12/2008	Circular 07/2008/TT-BTTTT by Ministry of Information and Communication guiding the provision of information on personal blogs	Decree 97/2008/ ND-CP
24/12/2008	Circular 09/2008/TT-BTTTT by Ministry of Information and Communication guiding the management and use of Internet resources	Decree 97/2008/ ND-CP
24/12/2008	Circular 10/2008/TT-BTTTT by Ministry of Information and Communication stipulating the settlement of disputes over Vietnam national domain names “.vn”	Decree 97/2008/ ND-CP
30/12/2008	Circular 12/2008/TT-BTTTT by Ministry of Information and Communication guiding the implementation of several contents of Decree 90/2008/ND-CP on anti-spam	Decree 90/2008/ ND-CP
02/03/2009	Circular 03/2009/TT-BTTTT by Ministry of Information and Communication stipulating management registration numbers and template of certificate of management registration number for email, SMS and IM advertisement service providers	Decree 90/2008/ ND-CP
16/03/2009	Circular 50/2009/TT-BTC by Ministry of Finance guiding the conduct of electronic transactions on stock markets	Decree 27/2007/ ND-CP
31/07/2009	Circular 26/2009/TT-BTTTT stipulating the provision of information on and assurance of access to government agencies' websites	Decree 64/2007/ ND-CP
14/12/2009	Circular 37/2009/TT-BTTTT by Ministry of Information and Communication stipulating procedures and required documents for the registration, licensing, and recognition of digital signature certification authorities	Decree 26/2007/ ND-CP
29/06/2010	Circular 14/2010/TT-BTTTT by Ministry of Information and Communication on management of websites and online social network services .	Decree 97/2008/ ND-CP
22/07/2010	Circular 17/2010/TT-BKH providing in detail pilot online bidding	Decree 26/2007/ ND-CP
10/11/2010	Circular 180/2010/TT-BTC providing guidance on electronic transactions in the field of taxation	Decree 27/2007/ ND-CP
15/11/2010	Circular 25/2010/TT-BTTTT on collection, use, sharing, security assurance and protection of personal information on websites or portals of state agencies	Decree 64/2007/ ND-CP
20/12/2010	Circular 209/2010/TT-BTC on electronic transactions in professional operation of the State Treasury	Decree 27/2007/ ND-CP



31/12/2010	Circular 46/2010/TT-BCT on management of activities of e-commerce websites selling goods or providing services	Decree 57/2008/ND-CP
28/02/2011	Circular No. 06/2011/TT-BTTTT issued on 28th February 2011 by the Ministry of Information and Communications on regulating the establishment and management of investment costs for information technology applications	Decree <u>06/2011/TT-BTTTT</u>
02/03/2011	Circular No. 30/2011/TT-BTC issued on 2nd March 2011 by the Ministry of Finance on regulating the supplement for the state budget index.	Decree <u>30/2011/TT-BTC</u>
14/03/2011	Circular No. 32/2011/TT-BTC issued on 14th March 2011 by the Ministry of Finance on guiding the creation, distribution and the use of electronic invoice for trading and providing services.	Decree <u>32/2011/TT-BTC</u>
18/03/2011	Decision No. 376/QĐ-BTTTT dated on 18th March 2011 by the Ministry of Information and Communications on amending Circular No. 06/2011/TT-BTTTT dated on 28th February 2011 by the Ministry of Information and Communications on regulating the establishment and management of investment costs for information technology applications.	Decree <u>376/QĐ-BTTTT</u>
21/03/2011	Circular No. 06/2011/TT-BCT issued on 21st March 2011 by the Ministry of Industry and Trade on regulating the procedures for granting origin certificates of preferential goods	Decree <u>06/2011/TT-BCT</u>
23/03/2011	Decision No. 19/2011/QĐ-TTg issued on 23rd March 2011 by the Prime Minister on approving the pilot implementation for receiving goods declaration, the relevant documents and electronic clearance for ships entering or leaving a country.	Decree <u>19/2011/QĐ-TTg</u>
30/03/2011	Circular No.09/2011/TT-BCT issued on 30 March 2011stipulating the management and the use of digital signatures, digital certificates and certification services for digital signatures of the Ministry of Industry and Trade	Decree <u>09/2011/TT-BCT</u>
31/03/2011	Circular No. 08/2011/TT-BTTTT issued on 31st March 2011 by the Minister of Information and Communications on amending Circular No. 37/2009/TT-BTTTT issued on 14th February 2009 on regulating the procedures related to licensing, registration and accreditation for organizations providing the services of digital signature authentication.	Decree <u>08/2011/TT-BTTTT</u>
06/04/2011	Decree No. 25/2011/ND-CP issued by the Prime Minister on detailing and guiding the implementation of some articles of the Law on Telecommunications	Decree <u>25/2011/ND-CP</u>



08/04/2011	Circular No. 09/2011/TT-BTTTT issued by the Ministry of Information and Communication on 08/4/2011, amending and supplementing some provisions of Circular No. 09/2008/TT-BTTTT dated on 24/12 / 2008 and Circular No. 12/2008/TT-BTTTT dated on 30/12/2008	Decree <u>09/2011/TT-BTTTT</u>
15/04/2011	Decision No. 521/QĐ-BTTTT issued on 15th April 2011 by the Minister of Information and Communications assigning tasks to agencies and individuals of the Ministry of Information and Communications to implement the project "Bringing Vietnam to become a strong country in information technology and communications field"	Decree 521/QĐ-BTTTT
13/05/2011	Circular No. 64/2011/TT-BTC issued on 13rd May 2011 by the Ministry of Finance guiding the implementation of Decision No. 19/2011/QĐ-TTg issued on 23rd March 2011 by the Prime Minister on approving the pilot implementation for receiving goods declaration, the relevant documents and electronic clearance for ships entering or leaving a country.	Decree <u>64/2011/TT-BTC</u>
17/05/2011	Circular No. 12/2011/TT-NHNN issued on 17th May 2011 by the State Bank regulating the management and the use of digital signature, digital certification and digital signature authentication services	Decree <u>12/2011/TT-NHNN</u>
10/06/2011	Directive No.897/CT-TTg issued by the Prime Minister on 10th June 2011 on strengthening the implementation of digital information securing activities	Decree 897/CT-TTg
13/06/2011	Decree No. 43/2011/ND-CP by the Government issued on 13rd June 2011 stipulating the provision of information and online services in the electronic information or electronic portal of the state agencies.	Decree <u>43/2011/ND-CP</u>

Apart from legal documents within the systems of Laws on Electronic Transactions and IT, the legal system on e-commerce is supplemented by several legal texts under law, governing specific areas of electronic trading environment in the field of infrastructure or specific application. Albeit the small governing scope, these documents contribute to the improvement of efficiency of the law – policy system on electronic transactions; and to the enforcement and implementation of legal provisions on e-commerce in all aspects of social life.

With a relatively sufficient legal texts system mentioned above, it can be affirmed that the legal system on e-commerce in Vietnam has been formed, creating favorable conditions for the implementation of e-commerce applications in society.



1.2 E-COMMERCE HAS BECOME AN IMPORTANT APPLICATION IN OPERATION OF ENTERPRISE

The survey of 3,400 enterprises nationwide by the MOIT in 2010 showed that by 2010, all enterprises nationwide, operating in all fields have applied e-commerce at different levels and scales.

According to the result, 100% of the enterprises are now equipped with computers; including 98% of the enterprises having internet connection under various modes; of which broadband (ADSL) accounts for 89%. Over 81% of the enterprises use email in operation; of which the rates of large enterprises and small – medium enterprises are 96% and 80% respectively. Specialized softwares are more and more used by enterprises to increase the operation efficiency such as accounting software (88%), human resources management (48%), etc... Most of enterprises accept orders and allow orders through electronic means, of which the number of enterprises accept orders and allow orders through the internet is increasing. According to the survey, enterprises allowing orders through emails and websites account for 52% and 15% respectively. Meanwhile, these figures of enterprises taking orders through email and websites are 53% and 21% respectively. Enterprises are also aware of and more interested in specific issues of e-commerce as well as personal information security.

Moreover, enterprises attach much importance to construction, popularization of their image and products in the internet zone through establishing their own website, participating in e-commerce transaction floors, network, advertising on E-newspapers, and famous searching tools such as google.com, yahoo.com, etc... The survey showed that 38 of the enterprises have established their own websites, 14% of the enterprises have joined e-commerce transaction floors.

With the above application situation, e-commerce has become an indispensable companion of all Vietnamese enterprises.

1.3 ONLINE PUBLIC SERVICE PROVISION HAS COME INTO LIFE GRADUALLY

Online public service provision has been an important task of ministries, industries, localities in recent years. By the end of 2010, most of ministries, industries and People's Committees of provinces and cities directly under central government have established their own websites to make direct contact with citizens and social organizations through providing basic online public services such as: providing information about the agency's organizational structure and operation; popularizing legal texts and



administrative procedures; and interacting with organizations and individuals, etc...

Besides providing basic online public services mentioned above, in the passing time, state management agencies under the Central government and local authorities have also strengthened the provision the level 3 many services which give great impacts on trade and business such as issuing certificate of business registration, certificate of representative office establishment, certificate of foreign invested enterprise establishment, electronic certificate of origin (eC/O), electronic customs, electronic tax declaration, online bidding, etc...

Epecially, some online public services have been conducted successfully at the level 4 such as the certificate of press conference, seminar, meeting with foreign factors issued by People's Committee of Ho Chi Minh City at www.ict-hcm.gov.vn which has been opened from February 2010; certificate of online chemicals declaration issued by the MOIT at www.cuchoachat.gov.vn which has been implemented from Jun 2010; etc...

Moreover, with the strong determination to implement the Prime Minister's Decision 30/QD-TTg dated 10 January 2007 on simplifying administrative procedures in the field of State management over the period 2007-2010, the ministries and localities have been also promoting the provision of other online public services in the direction of reducing procedures and documents, creating favorable conditions for enterprises. Up to now, most of the online public service has been provided at level 2

1.4 REGULAR EDUCATION OF E-COMMERCE HAS DEVELOPED POSITIVELY

Catching the demand of enterprises and the development tendency of e-commerce, in the passing years, educational institutions have step by step developed regular training of e-commerce.

According to the MOIT's survey of 125 universities and colleges nationwide, in 2010, there have been 77 educational institutions having e-commerce training, including 49 universities and 28 colleges. Among universities having e-commerce training, one has established e-commerce department, 10 have established e-commerce module. Among colleges, one and four have established e-commerce department and e-commerce module respectively. From 2008-2010, there were additional 15 universities and colleges opening e-commerce classes.



The survey also showed that e-commerce materials of institution are mainly compiled by lecturers (78%) or by themselves (34%). Some other educational institutions use materials of other domestic or educational institutions (32%) or foreign educational institutions (19%). As for teaching staff, there are only 19% of the educational institutions having lecturers with e-commerce background; 94% using lecturers of other backgrounds who receive additional training on e-commerce or self study to teach. However, educational institutions also said that the number of lecturers with e-commerce background would increase in the coming time.

1.5 PURCHASING GOODS AND SERVICES VIA INTERNET INCREASE RAPIDLY

From 2009 up to now, online trading has become a favorite form of shopping by young consumers, especially staffs of agencies, enterprises and offices in big cities such as Hanoi and Ho Chi Minh City. According to the MOIT's survey on e-commerce application of 500 households within Hanoi area; 49% of the households have had internet connection, of which 18% said that they used internet for e-commerce related purpose; and 4% used to apply online payment or online banking through internet.

Online sales have been carried out by many enterprises, including enterprises of aviation, tourism, delivery, retails of consumer goods, etc... At present, online trading has become popular for many categories of goods and services such as air ticket, electronic goods, interior decoration, mobile phone, computer, book, travel tour, hotel reservation, etc... Payment methods are also flexible, meeting most requirements of purchasers, from payment on delivery, bank transfer to online payment.

At present, some enterprises have had a test implementation or are planning to collect fees via internet with essential services for households such as electricity, water, telecommunications.

Transactions between the purchaser and the seller are mainly conducted through websites of enterprises, e-commerce floors, online social networks. Additionally, the rapid development of mobile telecommunications service in recent years with the outstanding features such as low price, rapidly increasing mobile users is a favorable condition for the dramatic growth of trading through mobile phone in the passing time.



SECTION II – EDIFACT/EBXML/XML BASED STANDARDS DEVELOPMENT

In the last 5 year period, the promulgation, dissemination of policies and measures aimed at developing technology for managing and facilitating e-commerce activities have been attached special importance by the ministries and branches. The Ministry of Science and Technology with responsibilities of the State management of standardization work, has built and disseminated many standards concerning to the field of electronic commerce, including the standards related to the interchange commerce data, interchange data in the administrative, commercial and transport (EDIFACT), interchange format and data elements, rules create the XML schema file, information processing, etc... Specifically includes:

TABLE 2: THE SET OF STANDARDS RELATING TO E-COMMERCE SECTORS

Standards	Contents
TCVN ISO 7372:2003	Electronic Data Interchange – List of commerce data elements
TCVN ISO 9735:2004	Electronic Data Internchange For Administration, Commerce and Transport (EDIFACT)
TCVN ISO 8601:2004	Interchange format and data elements – Information interchange – Performing date and time
TCVN ISO/TS 20625:2002	Electronic Data Internchange For Administration, Commerce and Transport (EDIFACT)- Rules to create the XML schema file (XSD) based on EDIFACT implementation instruction.
TCVN ISO 14662:1997	Information technology - Open EDI Reference Model
TCVN ISO 6093	Information processing - Performed by numeric string in the information interchange.
TCVN ISO/TS 15000 ebXML:2006	Electronic Business using extensive markup Language ebXML
TCVN 7789 (part 1-6)	Information Technology – Metadata Registries (MDR)

In order to promote Information Technology application development in state agencies simultaneously, the Ministry of Information and Communications promulgated the Decision No. 19/2008/QD-BTTTT and Decision No. 20/2008/QD-BTTTT dated 9 April 2008 regulations applied on the standard IT applications and promulgated the list of standard IT application in state agencies, including many standards related to the field of electronic commerce data integration group, access information and specification data.

Ministry of Finance also issued several documents guiding the application and operation information technology system in customs operation. Currently,



the data exchange between General Department of Customs and the local Customs Agencies is based on web / internet and traditional XML. With the goal of modernization of customs activities and harmonization of international standards, the General Department of Customs is working on the standards of electronic data exchange of the WCO and EDIFACT to put them in use in the near future.

The Ministry of Industry and Trade has initiated the deployment of building electronic certification of origin system eCOSys since 2006. Previously, eCOSys was developed based on web technology / Internet and traditional XML. In 2008, the Ministry of Industry and Trade has researched, developed and promulgated the national technical standards for electronic data interchange in issuing electronic certificates of origin. These National technical standards applied to the issuing of electronic certificates of origin organizations, institutions and individuals using the service for electronic certificates of origin and enterprise technical support. The application of this set of standards will better support for state agencies in the management of import and export data and gradual facilitation of trade activities based on the connection with the electronic certificates of origin system of the countries in the region and the world comply with the advanced technology standards in electronic data interchange EDIFACT of the United Nations.

In Vietnam, the standards used in electronic data interchange by most organizations and enterprises known are EDI and XML. These standards are often used in databases backuping and data interchange between organizations, enterprises or between different branches of an organization and enterprises as in the bank, security companies or customs, etc...

For instance, the General Department of Customs has implemented the application based on XML combined with the model recommended by the World Customs Organization (WCO) to interchange data with other enterprises participating in the electronic customs service procedures; the Ministry of Industry and Trade agreed the form of XML with the Chamber of Commerce and Industry of Vietnam (VCCI) and the import and export management departments, industrial zones, export processing zones to backup and interchange data in issuing the electronic certificates of origin system eCOSys. Some enterprises such as Hai Phong Port has been leading in implementing electronic data interchange in the management and handling the bills for domestic and foreign carriers. The program was built according to the international standard UN/ISO EDIFACT 9735 for container data management of the Port. Unilever Vietnam has been building EDI network since 2007 based on electronic data interchange standards for goods management by barcode system (EANCOM13) according to GS1 Standards.



Currently, the encouragement and support of the banks and credit institutions on deploying new technology applications in banking activities and other banking services, especially e-payment services are strongly taking place. The Ministry of Finance and the State Bank promulgated several guiding documents for the enterprises within branches to use uniformly the technology applications standards in the field of payment cards, International bank money transfer (such as ISO 8583, SWIFT standards), and interchange, information integration (based on XML standard).

SECTION III – e-Application/ e-business Related PROJECT UPDATES (TYPICAL E-COMMERCE MODELS)

TABLE 3: STATISTICS ON INTERNET DEVELOPMENT UP TO 6/2011ICS OF VIETNAM:

Report on Internet statistics of Vietnam		
Statistics on Internet development up to 6/2011		
- Internet Users	29268606	
- Internet Users per capita	33.75	%
- Total International connection bandwidth of Vietnam	194321	Mbps
- Total domestic connection bandwidth	325625	Mbps
- (Connection bandwidth through VNIX)	78000	Mbps
- Total VNIX Network Traffic	86043594	Gbytes
- Dot VN domain names	217893	
- Vietnamese domain names	242199	
- Allocated Ipv4 address	16028160	
- Allocated Ipv6 address	463609835 52	
- Total Broadband Subscribers	3473656	

Source: <http://www.thongkeinternet.vn/jsp/trangchu/index.jsp>



3.1 Electronic customs project

The Ministry of Finance carried out the National Electronic Customs project. Electronic customs procedures were first implemented on a pilot basis in Ho Chi Minh City and Hai Phong City customs agencies. Then, it will be expanded to other customs agencies of the cities and provinces that are adequately qualified to execute electronic procedures.

However, the results of electronic customs do not reach the expectations. The percentage of enterprises joining electronic customs is not high. So far, electronic customs only benefit enterprises filing for goods that are classified in the blue section. The procedures for goods classified in yellow and red section are still quite complicated. Besides, the system's interconnection with trade agencies, tax authorities, treasury, banks, CO issuing agencies still not convenient, barring prompt and accurate information flow. Tax data entry for enterprises requires many steps and some steps are difficult to fulfill. Besides, the risk management mechanism between manual and electronic process is not uniformly applied, and many officers are not qualified for the job. Moreover, data transfer is slow and the e-declaration software is not user-friendly. The campaigns, propogandas to attract enterprises to use electronic customs procedures are not effective. Many enterprises are not well aware about the benefits of electronic customs so they have not invested in equipment and human resource appropriately. Presently, General Department of Vietnam Customs is exerting efforts to improve the quality and accelerate the implementation of electronic customs service.

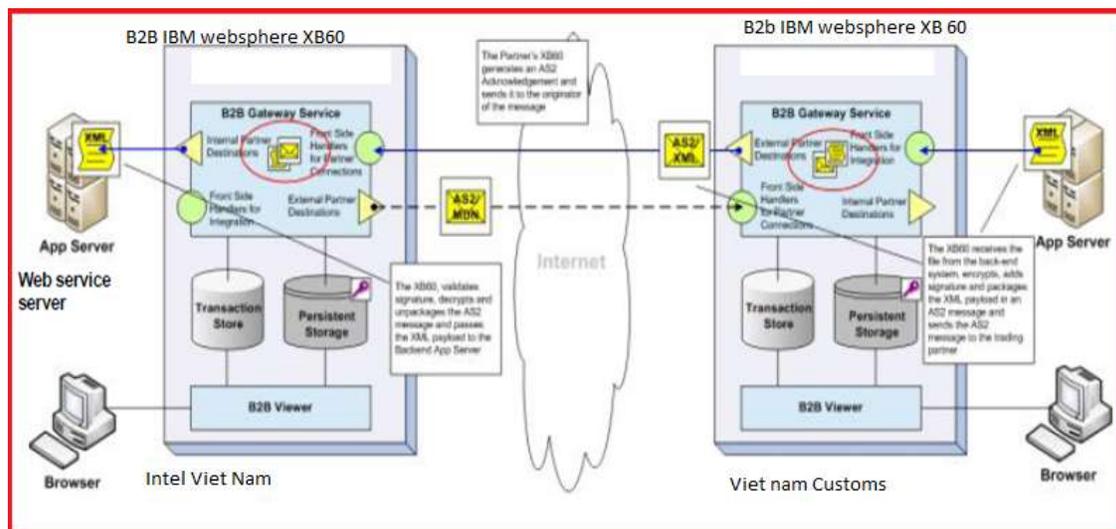


Figure2: WebSphere DataPower B2B Appliance XB60

Purpose-built B2B gateway to increase the speed and reliability of extending businesses beyond organizational walls: IBM® WebSphere® DataPower



B2B Appliance XB60 and XB62 extends businesses to customers and partners with DMZ-grade security. Reduce infrastructure costs and increase the speed of on-boarding new partners with a configuration-driven appliance that tackles today's B2B integration challenges.

- Centralize and consolidate B2B trading partner connectivity and transaction management with a DMZ-ready B2B gateway
- Operate with EDI standards-based trading partner management.
- Adjust product and service offerings to meet changing requirements with support for Web 2.0 technologies.
- Unlock information with drop-in B2B integration for heterogeneous environments.
- Improve the performance and scalability of your B2B interfaces with simplified deployment and management.

3.2 EDI system of the Haiphong Port

Haiphong Port is the pioneering company applying electronic data interchange system (EDI system) successfully and effectively. This port has constructed the EDI program under international standards EDIFACT, which links to obtain container management data from its current MIS management information to make the electronic report for carriers, and shipping agents.

Since 2003, Haiphong Port has officially applied this EDI system to connect with APM Shipping. After more than 6 months, EDI system was completely built and Haiphong Port officially used EDI data in managing and exploiting containers. Until now, EDI application plays an important role in Port's operation. EDI system of Haiphong Port has effectively operated to exchange electronic data with large shipping agents such as MAERSK, MCC, HANJIN, MOL, WAN HAI, APM, etc... EDI program under international standards helps to synchronize, standardize container data management between Haiphong Port and shipping agencies and at the same time enhance Port's service capability.

EDI system of Haiphong Port includes two parts:

- Container exploitation (CODECO): includes demonstrators, container moving plan: container gate-in/gate-out, cargo handling.
- Ship exploitation (COARRI): includes demonstrators: container loading/unloading and transporting.

After a few years of implementation, now the rate of using online transaction use has been up to over 90%, the data are updated fast, accurately, and completely, the quality of management has been remarkably improved...



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 and management.

3.3 The State Bank

The State Bank has developed and submitted to the Prime Minister approving the project of building a center for unified switching cards (Banknetvn reconstruction) implemented since 2009 till 2012, aimed to connect ATM / POS systems of the current union card into a single system across the country to improve efficiency and increase the utility for users of bank card services, card payments, promote, create a technical foundation of e-payment development in Vietnam. By 2010, the three coalition cards - Smartlink-VNBC Banknetvn completed inter-connected ATMs system across the country. This is a very important event for union card, the card issuer and the cardholder, this system allows the card's 3 coalition can perform transactions on each other's ATMs.

In the last 5 years, the new means of payment, on the basis of high technology applications such as bank card, Internet Banking, Mobile Banking, SMS Banking, Home Banking, E-Wallets, ... has appeared and became more life and suitable with the payment trends of the countries in the region and the world. Especially bank cards have become a popular means of payment with fast growth. Up to late of 2010, there were 49 card issuers with over 200 brand name cards, the number of cards in circulation reached 30 million cards (higher 10 times than in 2005), more than 11,000 ATMs (more than 6 times compared to 2005) and approximately 50,000 POS / EDC (nearly 5 times higher than in 2005).

Up to now, the State Bank has allowed 01 commercial bank deploying Mobile Banking services, 01 commercial banks and 08 non-bank institutions have the pilot intermediary payment service e-wallet . These organizations initiated actively implementing cooperation with commercial banks, the business e-commerce unit to provide products with many facilities such as payment for transactions on e-commerce websites, online payment by mobile phone, payment of bills, purchase money, etc. Up to now, there were 20 commercial banks participating in the e-wallet services, many other banks are promoting, signing and testing services. Electronic wallet has been accepted in over 200 units and has been preparing to deploy in many other units. The rapid development of payment services and electronic means of payment in recent years has facilitated the payment of goods and services via the Internet, cell phones, ATM, POS, promoted e-commerce development in Vietnam.



SECTION IV - Other advanced applications – IT – enabled Service (ITeS)

Industry and Trade sector: Using MS BizTalk Server 2010 - opportunities for development B2B applications in Industry and Trade enterprises

The VAN E-business network for linking large enterprises and trading partners, branches using EDIFACT is developed by Vietnam E-Commerce and Information Technology Agency (VECITA) with MS BizTalk Server Technology 2010 to conduct e-business transactions in the form of business to business (B2B) in industry and trade sectors from 2010.

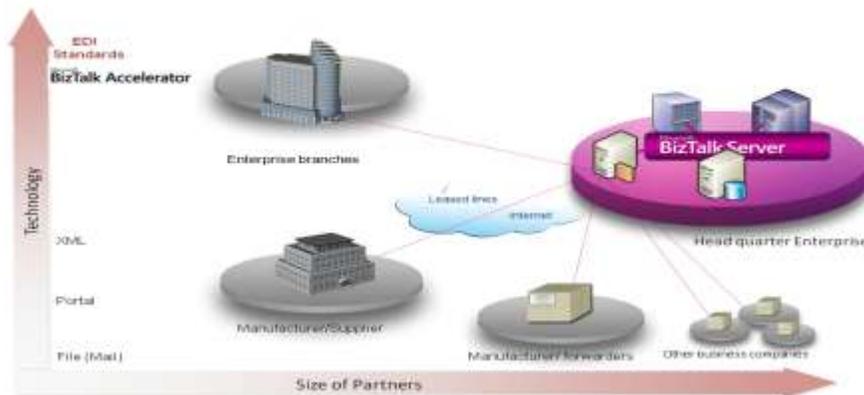
Pursuant to Decision No. 222/2005/QĐ-TTg of the Prime Minister on 15/9/2005 approved the Master Plan on e-commerce development period 2006 – 2010 and the Decision No. 50/2009/QĐ -TTg of the Prime Minister dated 04/03/2009 issued Regulation on Management development Software industry and Digital contents in Vietnam, Minister of Industry and Trade has decided to allow Vietnam E-Commerce and Information Technology Agency (VECITA) to develop E-Business Network based on model of VAN -Value Added Network (The project "Building VAN E-business network for large-scale enterprises") to help enterprises in industry and trade sectors to conduct e-business transactions with their partners in the form of business to business (B2B). The VAN E-business network for large-scale enterprise is being implemented to link number businesses with trading partners (such as suppliers, distributors, agents, etc ...) for exchanging of EDI business documents. In the VAN network, businesses and trading partners can exchange, integrate E-commerce and IT applications, manage business processes and data, information flows without having expensive investments in IT infrastructure and e-business systems.

The necessity of the technology selection: with purpose to make the B2B platform for the VAN E-business network with EC technologies related to industrial software and digital content, the project aims at to build VAN E-business networks for many large enterprises and partners, branches for EDI communications systems, electronic message handling based on international standards (such as EDIFACT UN ISO 9735/ ANSI X12,...), the right selection is to choose the BizTalk Server 2010 solution. Development technology MS BizTalks is to support electronic transaction with high level of safety and efficiency. The project is encouraging technology transfer from abroad, including investment promotion and technological development and service of electronic commerce application of standards to support electronic commerce via the interface (adapter) of BizTalk Server 2010, particularly the application of standard electronic data interchange EDI / XML of the United



Nations (EDIFACT). The VAN network is developed with technical support and services from IT worldwide corporations Microsoft, HP, and well-known domestic FPT, HiPT... The VAN E-business network also is built with the latest technological devices to create an infrastructure to facilitate e-commerce and IT help for many large enterprises sector in the application of Industry and Trade management practices, to reduce production costs. Encouraging business participation and use of investment expansion and operation of the VAN-value added network.

Connect Business Partners in Industrial enterprises



Orientation for future development: the VAN E-business network will act as the communication VAN E-business network for large-scale enterprise will be exchanging commercial documents, business data within national scale, creating a premise easy integration with electronic commerce system according to international standards of modern technology EDI, contribute to facilitate the commercial activities for businesses large economies of scale to connect with business partners at home and abroad. The project VAN E-business network will be implemented with a scale large enterprises to connect multiple sectors of Industry and Commerce at the national level. (Till now, more than 15 large scale-enterprises of industry and trade sector was registered for participating in the experiment (phase 1). With each large scale-enterprises will be connecting with up to five other partners companies, which are associated with VAN E-business networks.to link to the other networks. This is one of first Value Added Network in Vietnam industry and trade IT construction program to help business partners and conducting electronic commerce transactions by type "business to the business" (B2B). The construction site at the Ministry of Industry and Commerce (25 Ngo Quyen, 54 Hai Ba Trung - Hanoi) and some large enterprises in the industry, expected to be completed in 2012.



BizTalk Server Technology references:

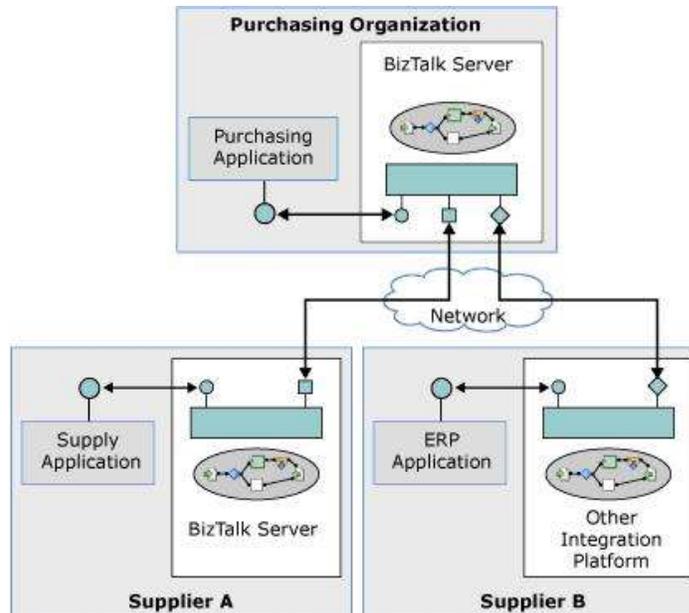
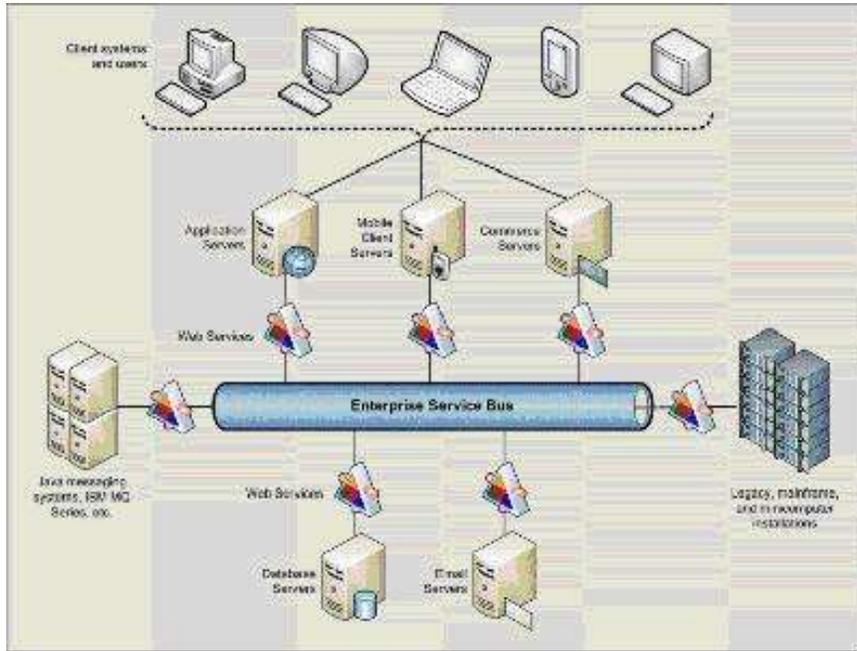
BizTalk B2B: Business-to-business (B2B) integration refers to the integration of one organization's systems with those of its trading partners. This leads to well-knit partnerships that benefit both organizations. The benefits include reduced cycle times, faster time to market, and improved customer service. Microsoft BizTalk Server offers you a powerful B2B integration solution. This Learning Snack describes the benefits of B2B integration. It explains how BizTalk Server technologies such as Electronic Data Interchange (EDI), Applicability Statement 2 (AS2), and industry-specific accelerators help you implement a B2B integration solution. The Learning Snack also describes the features of the BizTalk Server Enterprise Service Bus (ESB) toolkit, which extends the capabilities of BizTalk Server to support a service-oriented architecture.

BizTalk Server 2010 builds on the functionality of previous releases of BizTalk Server to facilitate business processes that span systems and people, within and across organizational boundaries. Through process automation and broad support for industry standards, BizTalk Server 2010 reduces the cost and complexity of supply chain management and other business-to-business solutions.

Unifying Business-to-Business Platforms:

- BizTalk allows you to automate business processes with your trading partners all the way from your systems to theirs.
- Support for EDI(X12, HIPAA, EDIFACT, EANCOM variants) standards over different transport and application protocols (including FTP, FTPS, HTTP, AS2 protocols), as well as modern XML-based Web Services standards.
- Enterprise Service Bus (ESB): is an architectural pattern and a key enabler in implementing the infrastructure for a service-oriented architecture (SOA)

BizTalk Enterprise Service Bus (ESB) (which is an architectural pattern and a key enabler in implementing the infrastructure for a service-oriented architecture (SOA) and B2B solution for e-business transactions) with many components required support enterprises to build a comprehensive service-oriented infrastructure (SOI) and using Web services for growing need to provide a managed layer between services and their consumers, addresses integration problems in a way that maximizes the re-use of services and maintains flexibility.



BizTalk Server can combine different systems into effective business processes is a challenging problem. Accordingly, BizTalk Server includes a range of technologies.

Key new features in BizTalk Server are:

- Better support for deploying, monitoring, and managing applications



- Significantly simpler installation
- Improved capabilities for Business Activity Monitoring (BAM)

BizTalk Server also uses the latest releases of other Microsoft technologies. It's built on version 3.5 of the .NET Framework, for example, and the developer tools are hosted in Microsoft Visual Studio 2010. For storage, BizTalk Server can use SQL Server 2008 R2, the latest version of Microsoft's flagship database product. BizTalk Server 2010 can also run on 64-bit Windows Servers, taking advantage of the larger memory and other benefits that this new generation of hardware offers. (Source: Vecita)



Reports of Committee Chairs

29th AFACT Plenary
Taipei
November 3, 2011



Business Domain Committee

Chairman, Eswaran Sankaranarayanan



SECTION I - GENERAL CONDITION UPDATE

Background

1.1. Subsequent to the decisions made post-AFACT in Goa, India, the Business Domain Committee initiated its activities and work programmes come Yokohama Mid-Term AFACT. As it was the maiden meeting in Yokohama's Plenary, there was only a single elected Chair without any other office-bearers.

1.2 Business Domain Committee (BDC) Composition 2010-2012

For term 2010-2012, the Chairperson of the Business Domain Committee nominated by the AFACT Steering Committee in Goa AFACT Mid-Term Meeting and ratified as such in Yokohama AFACT Mid-Term is the delegate from Malaysia.

SECTION II – WORKING GROUPS DEVELOPMENT

2.1 Working Groups formed in BDC since 2010

2.1.1 Only two working groups applied for admission and were approved into the Business Domain Committee after meeting the mandatory 3-economy support by-law:

- a. eCOO (Electronic Certificate of Origin) Working Group
- b. Travel, Tourism & Leisure Working Group

SECTION III WORKING GROUP(S) UPDATES

3.1 eCOO (Electronic Certificate of Origin) Working Group

For the period 2010-2011, the following activities were performed:

- a. eCOO WG Face-to-Face Meeting on 25th Nov. 2010 in



Kaohsiung

b .eCOO WG con-call Meeting on 1st March 2011 and in this meeting delegates from Chinese Taipei, India, Iran, Korea, Malaysia, Pakistan, UNESCAP and VietNam had attended

The focus of both the above sessions were to confirm the work programs related to cross-border exchange of Certificates of Origin.

3.2 Travel, Tourism & Leisure (TT & L) Working Group

Subsequent to the Kaohsiung AFACT Mid-Term meeting, TT&L Japan WG was set up formally In the UN/CEFACT Japan Committee to discuss and finalise work items for TT&L WG of AFACT. Two meetings have been held and another 2 are expected to be convened prior to the Kaoshiung AFACT Plenary.



Community Support Committee

Chairman, Dr. Eva Yi-Yuan Yueh



SECTION I – Committee Members

- 1- Dr. Mahmood Zargar, E-Commerce Consultant, I. R. Iran
Ministry of Commerce, Iran, mahmood.zargar@gmail.com
- 2- Shingo Hamada, Consulting Trilogia, Japan,
sh.sseu@gmail.com
- 3- Victoria Lee, Institute for Information Industry,
Victoria@server.iii.org.tw
- 4- Dr. Eva Yi-Yuan Yueh, Institute for Information Industry,
yyyueh@iii.org.tw

SECTION II – Meeting Reports

2.1- Meeting No. 1

Date: 25 November 2010

Venue: Room YURI, Meilparque Hotel Yokohama, Yokohama, Japan

Major Subjects on Agenda:

1. Terms of Reference for CSC
2. Briefing of the responses to the Survey of D/S of Resources for Capacity Building and discussion on the action plan
3. Update the status of development for The Survey of Maturity Level of Single Window for Trade
4. Discussion and call for participation
5. Join the ad hoc meeting with ESCAP
6. Joint meeting with eCOO WG for Single Window related discussion

Minutes:

1. Keeping in mind the fact of lack of budget for funding the travel expense of experts, and few responses to the survey of capacity building, CSC proposes the following actions to be taken in 2011 jointly with AFACT Secretariat.



- E-Learning Database strengthened by AFACT Secretariat: Strengthen the database of digital contents for e-Learning including power-point presentation materials, research papers, standards and specifications, UN/CEFACT recommendations, conference DVDs, and other types of existing training materials.
- Social media Networking planned by CSC:
 - Forming 3 Special Interest Groups (SIGs) in the subject of Tourism, eCOO/Single Window, and Core Component Library/data harmonization, which are basically composed of members of Travel, Tourism and Leisure WG, eCOO WG, and TMC respectively.
 - Using the mechanism of Social Media Networking and its development by web 2.0 communication tools aggregated on netvibes, a customized English webpage will be designed suited for distance instruction and professional peer learning specific to SIG members like eCOO/SW, BDC Tourism, and CCL/data harmonization. An example may be demonstrated by a C2C communication articulation for Tourism 2.0 (globe trotters).
- Net Conferencing supported by AFACT Secretariat:
 - Setting up a quality facility of net conferencing and test for accessibility between some specified countries/economies where SIG members are from.
 - Coordinating at least one net conference for SIG members and bloggers.
- Conducting a survey by CSC finding out the status of eCOO data exchange implementation in AFACT member. The needed eCOO related information for the survey may include:
 - Value chain of role players for COO
 - Data elements required in COO



- Specific countries/economies where, and specific goods for which a COO document is needed when importing goods
- Legal issues involved in eCOO, e.g. authentication, digital signature, etc.
- Security issues involved and level of IT security required by AFACT member countries/economies
- IT infrastructure for issuing, transmitting, and archiving, e.g., web based application and issuing, message transmitting, etc.
- Intention from the authority concerned to exchange eCOO with other countries/economies, which countries/economies are on the high priority list.
- A form of COO collected from all participating AFACT members (Refer to the ASEAN archive)
- Promotion: Promoting to both private and public sectors by AFACT Secretariat in the field of AFACT subject projects so that vendors, solution providers may put advertising on AFACT pertinent web pages.

Actions taken: (Reported on the mid-term StC meeting on 3 May 2011)

1. e-Learning Database of the AFACT Website

AFACT Secretariat enhanced the function and service of Website Database.

2. Social Media Networking

- A hearing held in JASTRPO on 17 January together with “Japanese EC Promotion Organization for Travel, Tourism and Leisure” to clarify the necessity of implementing tools of SNS, its functionality and cost involved
- Due to not being able to offer free services to AFACT by Mr. Shingo Hamada, it was suggested we use existing mechanism such as Facebook, Linked-in, WordPress,



Goodle Group, etc. to fulfill the needs for group sharing and learning

3. Net Conferencing

- Using the current GOTOMEETING facility set by AFACT Secretariat, if needed.

SECTION III – Projects Reports

3.1- Project No. 1

The survey of needs for training/consultancy in eBusiness and trade facilitation, and resources to provide in the AFACT Community

1. Survey A: Resources Needed for Training/Consulting and Conducted by Overseas Experts
2. Survey B: Resources Provided to Member Countries/Economies and Arranged by AFACT Secretariat

Purpose:

1. To find out the need from respective AFACT members for capacity building in eBusiness and trade facilitation, and any other domain specific practices such as REACH.
2. To match make the needs to the experts who could provide resources in terms of training and consulting with respect to lecturing and courseware.

Survey period: 2 July ~ 10 Aug. 2010

Outcomes of Survey:

1. Lack of response to the survey, only 4 members joined, i.e. Mongolia, Thailand, Iran, and Chinese Taipei.
2. Both Mongolia and Thailand are willing to support all the expenses in local including accommodation and local transportation of overseas experts, subject to AFACT Secretariat supporting the international flight ticket fare.
3. Chinese Taipei and Iran both expressed that the experts recommended to go abroad for training and consulting require compensation and daily per diem for the time spent.



3.2- Project No. 2

The Survey of Status on eCOO Implementation in the AFACT Community

Purposes:

1. To find out the status of IT infrastructure and business environment with respect to the subject project which AFACT is launching.
2. To find out future plan for conducting the project in eCOO in particular for some AFACT members in order to develop business opportunities.
3. To support implementation of AFACT eCOO project.

Survey Period: 21 January ~ 15 February 2011

Outcomes of Survey:

1. Lack of response to the survey, only 4 members joined, i.e. Mongolia, Pakistan, Iran, and Chinese Taipei.
2. Certificate of Origin is very negotiation oriented between trading countries based on bi-lateral trading agreement.
 - Whether or not required for COO document by the importing country
 - Whether or not mandatory for exporters to submit COO document while declaring customs
3. Except for Chinese Taipei all three members still issue paper/electronic certificate of origin, but can be applied through Internet.
4. In Chinese Taipei the exchange volume of eCOO message is still very small, referring to the case between Korea and CT, due to the dual system (either eCOO messaging or paper/electronic document submission)

3.3- Project No. 3

Single Window Survey in AFACT Economies (The questionnaire form V1.0 was designed by the Vietnamese team for Taskforce Team)

Purposes:

1. To find out the status of practices with respect to single window in AFACT members

Survey Period: 9 May ~ 31 August 2011



Outcomes of Survey:

1. There were totally 8 members responded to the survey, i.e. Chinese Taipei, Iran, Korea, Japan, Mongolia, Pakistan, Thailand, and Viet Nam.
2. The most pervasive services or functions that the Single Window or e-Customs system covers (5 and more members replied) are as follows:
 - Submission of cargo manifest
 - Import/Export license application and approval/permission
 - Import cargo clearance procedures
 - Export cargo clearance procedures
 - Computation of duties taxes and fee (as a shared service across departments and services)
 - Business entity registration service
 - Single user registration service
 - Online information on tariff, restrictions and prohibition for commodities/ products
 - Duty and tax payment
 - Duty and tax refund and other similar procedures
 - Filing of inspection/ examination results
 - Quarantine application and approval/permission
 - Food sanitation application and approval/permission
 - Inspection/examination includes automated scheduling of equipment and human resources
 - Warehouse cargo control
 - Reporting and processing of vessel entrance/departure notice or report to Customs administrations
 - Automated profiling/risk assessment of cargo (selectivity)
 - Statistical reporting capability
 - Reporting of dangerous goods
 - Application and issuance of certificate of origin (CO)

SECTION IV – Plans for future and other issues

4.1- Capacity building

- Facilitating specific members from less developed countries, e.g. Cambodia, Vietnam, etc., to apply for support from UNESCAP for capacity building program.
 - Lecturers pool and arrangement



Technology and Methodology Committee Report Chairman, Hisanao Sugamata



SECTION I - Committee Members

There are 17 participants from 6 countries/economies during 2010-2011.

Chinese Taipei

Frank Lin	GCOM
Mei Li Chen	III

Iran

Adabi-Nasser	Shipping Computer Service
Koorosh Jalali	Rahyab
Mehrdad Zolfagharian	FANAVA Group
Naser Naghashzadeh	FANAVA Group

Japan

Hisanao Sugamata	JEDIC
Ryoko Sakai	JEDIC
Toshihiro Suzuki	Oracle Japan

Korea

Young Kon Lee	Korean Polytechnic University
Sang Ta Lee	NIPA
Seok Koo Ji	NIPA
Kim Yong Jal	Korean Polytechnic University

Singapore

Oscar Pagdanganan	CrimsonLogic Pte Ltd S
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Vietnam

Nguyen Thi Minh Huyen	Ministry of Industry and Trade
Nguyen ThuyAnh	Ministry of Industry and Trade

SECTION II – Meeting Reports

2.1 TMC Meeting 2010/11/26 (Yokohama, Japan)

The meeting topics are as follows.

- (1) Review the activities during the transition



Terms of Reference for TMC

- Finalize the draft ToR (see Section III 3.1)
- Required amendments to Bylaws of AFACT

WGs and Projects

- 2 projects are agreed
 - CCL Utilization in Asia
 - SOA Interoperability Framework for Single Window in Asia
- No WGs proposed at this meeting
 - XML WG proposal was withdrawn

(2) Technical discussions were postponed to the next interim meeting

- The next interim meeting will be held on 26-27/Jan/2011 in Tokyo

* This meeting was canceled because of no participants from outside Japan.

- The new WG proposal may be assessed at the interim meeting.

2.2 TMC Meeting 2011/05/02 (Kaoshiung, Chinese Taipei)

The meeting topics are as follows.

(1) Review the ToR and confirm the current members of TMC

- Chinese Taipei, Iran, Japan, Korea, Singapore, Vietnam

(2) Deliverables Priority (see Section IV)

(3) Member's Report

- Data harmonization in Taiwan customs

(4) CCL Utilization in Asia

- Introduction of Japanese industry case

(5) New WG Proposal for SWIF by Korea (see Section III 3.3)

- TMC Approved the new WG with comment.

(6) Collaboration plan with UNESCAP for UNNExT

- Recommendation: B2B infrastructure in the domestic is also essential for Trade Facilitation, addition to the Single Window at the trade gate.

SECTION III – Projects Reports

3.1 Technology and Methodology Committee (TMC) Terms of Reference

1. Name of the committee



Technology and Methodology Committee

(hereinafter referred to as “TMC”)

2. Purpose

TMC is to promote the implementation of eBusiness Technologies and Methodologies based on eBusiness standards for facilitating e-Business / e-Trade in Asia Pacific Region, in order to enable a global electronic marketplace where enterprises of any size and in any geographical location can meet and conduct business with each other.

TMC contributes the global business standardization activities of UN/CEFACT, OASIS and other international organizations for standardization and trade facilitation through harmonization and interoperability in e-Business / e-Trade.

3. Work Scope

TMC will handle the issues of interoperability, productivity (reusability, openness), using Technology and Methodology in e-Business / e-Trade.

The scope of work subject may include as follows.

- Reference framework (Technology, Methodology and Library) for eBusiness
- Modeling Methodologies
- Core Component Harmonization (may include Metadata)
- Context methodology (may include Ontology)
- Message Assembly
- XML Schema Design
- Messaging Service Protocol
- SOA
- Registry and Repository
- Securities

4. Deliverables

Deliverables of TMC are expected as follows.

- Guideline for Reference framework (Technology, Methodology
And
Library) for eBusiness
- Submission DMRs for CCL
- Core Component Libraries (CCL) in Asian region
- Business Process Library in Asian region
- Implementation Guidelines for CCL and other relevant data



models used in Asian Region

- Message Assembly Guidelines
- Interoperability Test Specifications and Certificates
- Registry Guidelines (may include Federation)
- Security Guidelines for e-Business

5. Membership and Structure

TMC is an executive committee under AFACT.

TMC may have several working groups, such as Core Component Working Group, Interoperability Promotion Group, Security Group.

Members of TMC are consists of the person who is representing the member of AFACT.

Participants of TMC are open to any organizations who are interested in e-Business implementation in the Asia Pacific region.

6. Organization

TMC has a Chairperson.

The chairperson is elected by the member of TMC, and ratified by the AFACT Plenary. The chairperson will serve two years term. The chairperson can be re-elected.

The duties of the chairperson are as follows.

1. Call to order and preside over meetings and prepare those agenda
2. Facilitate Working Groups
3. Report activities and results of TMC to AFACT Plenary
4. Communicate the official position on the matter of Technology or Methodology to UN/CEFACT Working Groups, OASIS TCs and related standard bodies

TMC may have Working Groups (hereinafter referred to as the “WG”).

WGs are subject to be approved by TMC and to be endorsed by Plenary. Establishment each WG should be supported by at least three AFACT members.

To establish a WG under TMC, the interested parties shall submit an expression of interest, Objectives, Scope, a terms of reference and an initial work program to TMC for approval. TMC propose the new WG to Plenary for endorsement.



Each WG shall appoint its own Convener, and may appoint a WG Secretariat whenever necessary. The term of office for the Convener and the WG Secretariat if it is appointed, shall be for a period of two years.

The Convener of each WG shall report its activities to TMC and report to Plenary as requested.

7. Voting Procedure

There are 2 types of voting in TMC, the member voting and the participant voting.

The member voting shall be taken for the following cases.

- 1) Election of TMC Chairperson
- 2) Amendment of TMC ToR
- 3) Creation or Disbandment of WG

The participant voting may be taken for the other cases of the member voting, such as technical matters, working programs.

The objective within TMC is to achieve a consistent consensus in all matters. In case of doubt concerning consensus, then, and only then, shall a vote be taken in an official TMC meeting. Any participants who feel that a consensus has not been reached may call for a vote, while the chairperson declares consensus. These ballots require a simple majority of the members (the case of the member voting) or the participants (the case of participants voting) attended at the official meeting at the time of the vote. Any voting can be taken when at least 3 members are present at the meeting. The use of proxies shall not be permitted. The chairperson is not eligible to vote.

8. Frequency of the Meeting

The meetings shall be held under the coordination of AFACT. Therefore the meeting may be held with AFACT plenary meeting and AFACT midterm steering committee meeting. The chairperson can call for the interim meetings between AFACT meetings. The chairperson can organize the teleconference instead of the face to face meeting.

9. Official Language

English

3.2 CCL Utilization in Asia

TMC has a program of work.

1. Name: CCL utilization in Asia



2. Background:

- UN/CEFACT CCL is getting too big for covering many domains. It is getting difficult to find the suitable CCs/BIEs in CCL for message designers, and there are concerns about the computer performance using the big XML Scheme modules always.
- There are several data model libraries other than UN/CEFACT CCL, such as GS1, OAGI, WCO, UBL and local implementations in Asian region. Many of them are developed using CCTS, but there are no interoperability.
- UN/CEFACT Standard Message has a lot of BIEs in order to cover various domains. But user needs a small part of BIEs for daily EDI, but he has to implement all the parts of the Standard Message.

3. Objective:

To establish the methodology for utilizing CCL in the efficient manner, and to promote the methodology implementation in the Asian region.

4. Work items:

- Analyze the actual problems around CCL.
- Prepare the framework for utilizing CCL.
- Define the packaged CCL for Asian Region.
- POC for utilizing CCL.
- Prepare the guidelines for utilizing CCL.

5. Deliverables:

- CCL Framework (based on CCTS V3 and NDR V3)
- Pilot packaged CCL for Asian Region
- Guidelines for utilizing CCL

3.3 Single Window Interoperability Framework

TMC has established a Working Group.

1. Name: SWIF(Single Window Interoperability Framework) WG
2. Membership and Structure

The members of AFACT could join SWIF WG as a primary member. Any individual or organization who is interested in e-business and trade in Asia Pacific region could join as an observer member.

3. Objective



For realizing single window, interoperability is a most critical issue in technical area. Nowadays, SOA is becoming rapidly core technical framework for most technical areas, which could be best solution for ensuring interoperability. Many governments are adopting SOA for connecting various systems for interoperability. Also, many big companies introduce SOA as their main software backbone systems. SOA enables very easy connection and communication among software systems with low cost by loosely-coupled mechanism. Single window or e-trading requires complex connection mechanism among systems developed by various stakeholders.

This SWIF WG will study and provide a guideline and standard for implementing interoperability framework based on SOA. Even though SOA is a good solution for single window, most people have different ideas in implementing SOA system because SOA is now concept-oriented. So, SWIF WG will provide a guideline for implementing single window with interoperability framework. It can be a practical and detailed guideline for single window system, which also could be helpful in operating e-trading system.

4. Work items

This project requires following work items.

1. Analysis for interoperability framework on SOA
2. Analysis for e-trading business in Asia
3. Study for SOA design methodology for SW
4. Define the interface of components for SW
5. Make a guideline and a work template
6. Test guideline for SOA

5. Deliverables:

1. Analysis report of Asia e-trading business
2. A guideline and a work template for SOA in SW
3. A standard for definition of component interface
4. Test guideline

6. Schedule:

Sept. 2011: Analysis for interoperability framework on SOA

May. 2012: Analysis for e-trading business in Asia

Sept. 2012: Study for SOA design methodology for SW

May. 2013: Define the interface of components for SW

Sept. 2013: Make a guideline and a work template



May, 2014: Test guideline for SOA

SECTION IV – Plans for deliverables

Priority	Category	Deliverables	2011_1H	2011_2H	2012_1H	2012_2H	2013_1H	2013_2H	2014_1H	2014_2H
0	Mandatory	Submission DMRs for CCL	←-----							
1	Utilizing CCL	Guideline for Reference framework (Technology, Methodology And Library) for				→				
1		Core Component Libraries (CCL) in Asian region						→		
2		Business Process Library in Asian				←				→
2		Implementation Guidelines for CCL and other relevant data models used in Asian Region			←				→	
2		Message Assembly Guidelines			←				→	
1	Interoperable Platform	Interoperability guidelines based on SOA		←				→		
2		Interoperability Test Specifications and Certificates						←		
2	Supporting Technology	Registry Guidelines (may include Federation)					←			→
3		Security Guidelines for e-Business					←			



2011 eAsia Awards – Semi Finalist Projects

eAsia Award Categories

- ✓ **Trade Facilitation**
- ✓ **Electronic Business in Public Sector**
- ✓ **Electronic Business in Private Sector**
- ✓ **Bridging Digital Divide**



eAsia Award Categories/Projects

Ref. No.	Project Title	Organization
Trade Facilitation Category	ICEGATE Upgrade Project	Directorate General of Systems & Data Management, Central Board of Excise and Customs, Ministry of Finance, Government of India
	General Cargo Operations Management System (GCOMS)	Ports & Maritime Organization
	The Standardization Project of Technology and Information for Efficient Logistics Transport	KRRI (Korea Railroad Institute), KL-Net
Electronic Business in Public Sector	Iran Fuel Card Project (IFCP)	National Iranian Oil Refining and Distribution Company (NIORDC)
	National Science and Technology Information Service (NTIS)	National Science & Technology Commission (NSTC), Korea Institute of Science & Technology Information (KISTI)
	Impetus of E-invoices and its Application to the Metropolis	Financial Data Center, MOF
Electronic Business in Private Sector	Realization of Green Cloud Computing ~Green EDI Collaboration with Financial EDI~	Kojima Press Industry Co., Ltd.
	KTB Invest Smart Card (KBT Oil Fund Card & KTB Gold Invest Card)	Krung Thai Bank Public Company Limited
	The Cool Chain System Development of Chinese Fast-Food	Formosa Chang Inc.
Bridging Digital Divide	Tracenet (Certification & Traceability System for Organic Products)	Agricultural & Processed Food Products Export Development Authority, Ministry of Commerce, (APEDA)
	The Project for Providing Assistance of Digital Opportunity Center-New Taipei, Taoyuan County, and Lienchiang County	China Productivity Center (CPC)
	Shorten digital Gap by Broadband Internet (VNN network): Mega VNN, Fiber VNN	Vietnam Data Communication Company (VDC)



Country	India
Project Title	ICEGATE Upgrade Project
Project Leader	Mr. Shri Atul Dikshit, Additional Director General
Organization	Directorate General of Systems & Data Management, Central Board of Excise and Customs, Ministry of Finance, Government of India
Category	Trade Facilitation

Executive Summary:

Indian Customs EDI, as it stands today, consists of three distinct applications developed as independent projects – ICES, ICEGATE and RMS project. ICES (Indian Customs EDI System) is the core customs clearance system on which Customs officers work. The ICES system is integrated with the external world through ICEGATE (Indian Customs EDI Gateway), the e-commerce portal of the CBEC. The RMS (Risk Management System) application, on the other hand operates in close coordination with ICES application to facilitate the compliant trade as well as to identify the non compliant Customs Goods Declarations based on risk rules for selective intervention of Customs officers for detailed assessment and examination. The inter-relationship amongst the three Customs application is depicted graphically in Fig1 below:

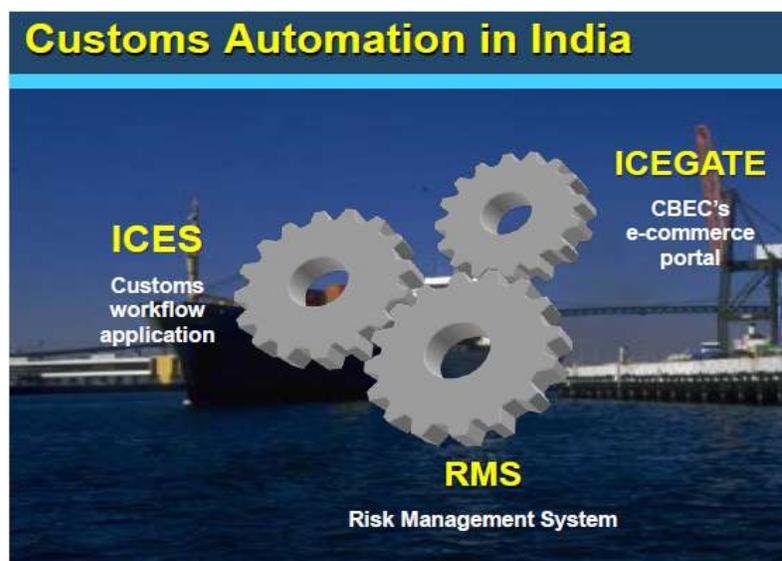


Fig1-The three gears in Customs automation in India



ICEGATE portal provides host of end to end services for Customs EDI to its Trade Partners making the Customs clearance of import/ export goods transparent as well as efficient leading to substantial reduction of transaction costs. These services include electronic filing of Bills of Entry (Import Goods Declaration); Shipping Bills (Export Goods Declaration); Cargo Manifest declarations such as Import General Manifest (IGM), Export General Manifest (EGM) etc.; and Customs Duty Payment in the form of electronic messages for Customs clearance over the internet. ICEGATE is a critical application in as much as **12.55 Million documents filed in 2010-11 i.e. almost 83%** of all imports/ exports documents are filed in ICES through ICEGATE. It also provides e-payment facility for Customs Duty payment as well as electronic disbursement of export incentives such as Duty Drawback in any bank account of the exporter across India. **In 2010-11, Customs duty amounting to Rs. 27 Billion (US\$ 600 Million) was collected through e-Payment** facility on ICEGATE. The ICEGATE accepts documents for any Customs Location in EDI on 'anywhere - any time' basis. ICEGATE services are **now operational at 97 major customs locations** handling nearly 98% of India's International trade in terms of import and export trade volumes.

Besides transactional services, ICEGATE also provides real time document tracking facilities for the Trade Partners. Data is also exchanged with various other regulatory and licensing agencies in other ministries of Gov. of India such as Director General of Foreign Trade (DGFT), Reserve Bank of India (RBI), Ministry of Steel and Directorate General of Commercial Intelligence & Statistics (DGCI&S). The National Import database (NIDB) and Export Commodity Database (ECDB) for Customs Department are also being serviced through ICEGATE. All the services on ICEGATE are free of charge. The target beneficiaries of ICEGATE include 0.67 Million importers/ exporters, 9000 Customs House Agents, 10000 CBEC officers, and about 800 institutional Trade Partners. Acceptability of the ICEGATE can be gauged from the fact that the **portal receives 7.49 Million hits per day and expected to cross about 2000 billion hits in 2011-12**. The entire Customs IT Infrastructure including ICEGATE has been implemented keeping in mind unforeseen disaster. Besides Primary Data Centre, it has a Business Continuity Process as well as Disaster Recovery sites as part of architecture. The Project has been audited by Department of Information Technology (DIT), Government of India during ISO 27001 certification of the IT Consolidation Project of Directorate General of Systems. **ICEGATE was also awarded Gold Award in the Best Government Portal category for 2011 by the Government of India.**



Country	Iran
Project Title	General Cargo Operations Management System (GCOMS) Organization: Iranian Ports & Maritime Org.
Project Leader	Mr. Ebrahim Karimi, Director General of Statistics & Information Technology
Organization	Ports & Maritime Organization
Category	Trade Facilitation

Abstract:

Iranian ports and maritime organization- PMO- as Iranian maritime focal point and headquarters of more than 11 commercial ports has been at the forefront of Iran's transformation into the leading trade and commerce centre in the country.

Furthermore, information and communication services are the prime objective of PMO to improve service in advance of customer demand. PMO, therefore, has the flexibility to adopt software to specific customer requirements and terminals management to develop and keep abreast of advances in electronic data interchange.

GCOMS is a real time proactive system providing terminal operations, port documentations and electronic data interchange for transferring data between ports, customs departments and shipping line agencies that enables the community members to improve day to day management and decision making. It is designed to provide an information network linking the physical points along various surface transport routes at 54 terminals in 11 ports in 9.743.900 m2 areas in Iran. In these ports, 12,383 transactions are processed by the system for loading and discharging 25 vessels and 8,792 trucks & wagons daily. It provides many facilities to simplify these processes, such as handhelds to automate data gathering by stevedores & terminals, internet & intranets to interchange data with customs, banks, carriers & agencies and local networks to read data from weighing machines for automating weighing process.



The system comprises several modules including Harbor Master, Manifest Transfer, Cargo Handling, Port Billing, Gate Pass, and Statistics reports.

The key success point is how to design and implement a single customizable system for several maritime cargo operations based on different stakeholders needs in developing countries. The importance is the solution proposed for construction of the infrastructure of trade facilitation.

The General Cargo Operations Management System (GCOMS) is a facility that has been developed and implemented through 3 years. The system has evolved from a ship loading management tool to a fully fledged Cargo Management System with the ability to manage multiple locations/cargo types (including bulk, break-bulk and containers) and transportation mediums in all Iranian ports.

Naturally where development is required for the system for integration into other facilities, or to align the system to particular on-site requirements, this has been done.

Goals & Objectives

This project has been done to achieve five major values as follows:

1. Trade Facilitation
2. Computerize procedures
3. Simplify and harmonize data & Business Processes
4. Reduce documentation
5. Increase Competitiveness

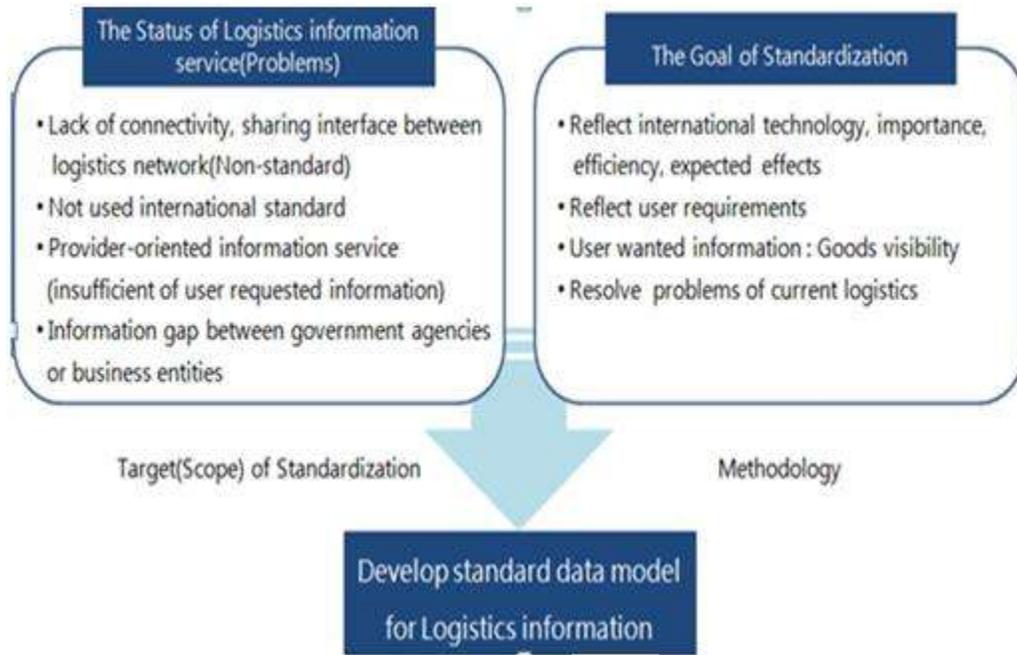
The reasonable conceptual plan to provide essential opportunities is as follows:

1. Reengineering business processes to have unified cargo operations in all ports.
2. Developing software for port documentation based on major ports expertise.
3. Developing software for terminal operations based on world-wide expertise.
4. Developing software for data mining based on Business Intelligence Technology.
5. Developing software for electronic data interchange based on UN/EDIFACT standards.
6. Developing a unique web-based application for data communication between all parties.



Country	Korea
Project Title	The Standardization Project of Technology and Information for Efficient Logistics Transport
Project Leader	Mr. Kwon, Yongjang, Principal Researcher
Organization	KRRI (Korea Railroad Institute), KL-Net
Category	Trade Facilitation

The importance of Logistics becomes ever more because logistics is recognized as core strategic business for creating added value to corporations as well as nations. Public or private investments are being made on infrastructure expansion/upgrade, standardization, automation or information-oriented area to improve efficiency of logistics. Because various business entities participate in logistics business, it is necessary to define a standard as a common communication channel among them. On the other hand, standardization in logistics is wide enough to cover packaging, transportation, storage, delivery, loading/unloading, infrastructure, etc. The logistics related information is generated or changed according to flow of real goods at all steps of supply chain; standard is needed in smoothly exchanging logistics information because main processes are executed through exchange of relevant information among various business entities. As business environments become globalized, the scope of information standardization has also widely expanded. . The standardization of logistics has emerged as an important measure for reducing national logistics costs because national logistics costs are an important factor in improving national competitiveness. Therefore, the project aims to enable interconnection through an international collaboration model based on standard data model. Next figure shows the reason why information and process standardization are needed.



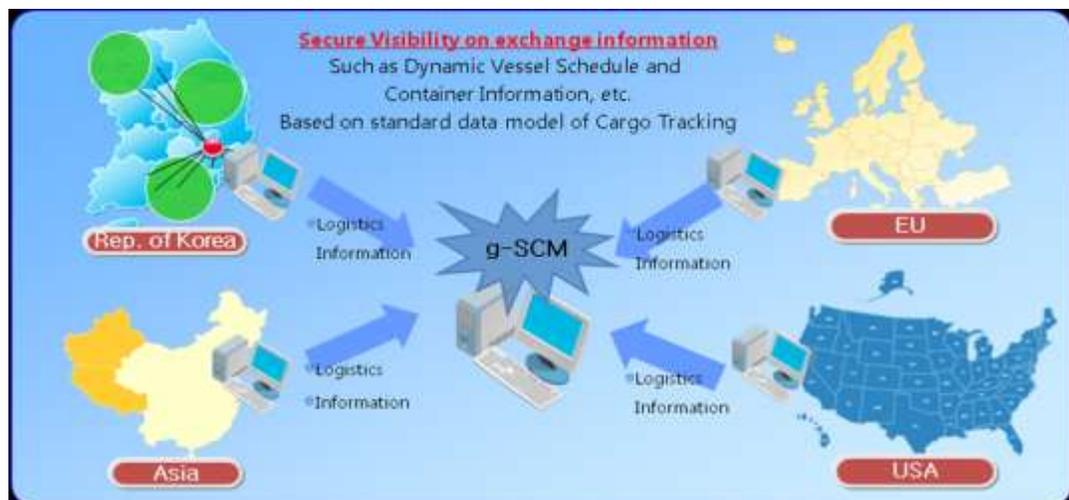
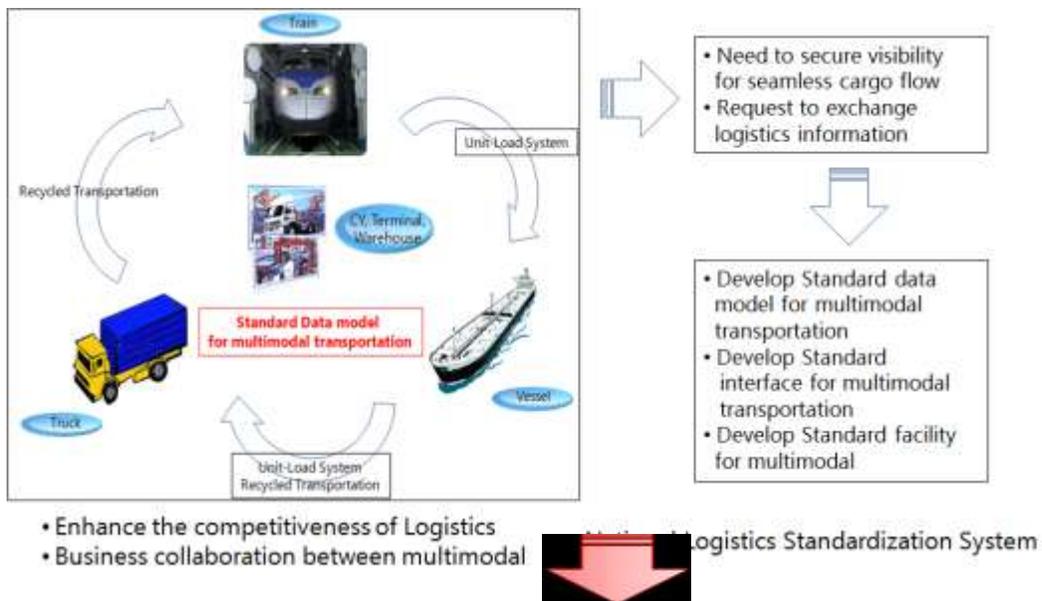
In the case of ROK, informatization projects have been implemented by each domain such as export/import, customs, air, sea, land and railroad to realize export/import e-logistics under the leadership of relevant government agencies since early 2000s. However, because each informatization project was implemented without consideration of connectivity among the systems, connectivity among the systems was not guaranteed even though informatization level of each system was good. The issue of efficiency on national logistics system was raised consistently. As a result, ROK government decided to setup information or interface standardization plan for connectivity among transport means or government systems. The “National Logistics Standardization System Development” project was launched in 2007. Through the project, ROK intends to reduce national logistics costs, strengthen national competitiveness and lead international standardization efforts in logistics. Furthermore, we will attain green logistics.

The goal of “National Logistics Standardization System Development” project is to secure global visibility through standardization of business process and information, and connectivity between information systems. For global visibility, it needs standard interface, standard data model, on exchanging information between logistics information system. Another goal is to develop unit-load system of one-stop transportation without transportation facility being replaced on transshipment between multimodal transportation for bulk cargo. Currently, it is difficult to capture information of bulk cargo due to frequently loading/unloading work and non-automated work process. But, with one-stop transportation, it is possible to do work automation process.

The project aims to secure logistics technologies by defining national



standard policy and make ROK an advanced country at logistics standardization area through systematic logistics standard plan. Through the project, ROK intends to achieve national competitiveness, strengthen its leadership position in standard area and contribute to international standardization by actively participating in international standardization process. In addition, ROK also intends to progress globalization of the developed technologies through global co-research with foreign country and make these technologies inroads into foreign market. As part of an effort for co-work, we apply standard data model to NEAL-NET(*Northeast Asia Logistics Information Service Network*) that is sharing logistics information between Korea, china and Japan. Also, project team try to exchange standard data model and interface with France and USA for seamless logistics.





Country	Iran
Project Title	Iran Fuel Card Project (IFCP)
Project Leader	Ahmad Tavallaie, CIO of National Iranian Oil Company
Organization	: National Iranian Oil Refining and Distribution Company (NIORDC)
Category	Electronic Business in Public Sector

Executive summary

The main purpose of project is controlling fuelling amount, behavior of system user and therefore decrease risk of misuse at fuelling petrol station. Further system displays an automation of fuel distribution to customers and eliminate the usage of cash in petrol stations by the use of an electronic purse..

Key benefits of project are:

1. Central controlling of fuel amount at petrol station.
2. Central and decentralist control of fuel behavior of Petrol-Card user, due of statistics
3. Decreasing misuse of fuel at petrol stations
4. Cashless payment.

In This project, fueling is realized by smart card, concerning the sale of all types of fuels, and will include the vehicle identification, assess quotas and the price of the product, e-purse payment and limit fueling consumption, self-fueling, oil purchase, sales and storage management to avoid loss of petrol resource, reduce economic damage, and provide decision-making support for different levels' operators of NIORDC (NIORDC is a governmental organization and is the owner of the project)



Country	Korea
Project Title	National Science and Technology Information Service (NTIS)
Project Leader	Gu-Sun Park, Director General of Performance Management Bureau at NSTC
Organization	National Science & Technology Commission (NSTC), Korea Institute of Science & Technology Information (KISTI)
Category	Electronic Business in Public Sector

Executive Summary

After the National Science & Technology Commission (NSTC hereinafter) deliberated and passed the NTIS Establishment Bill in July 2004, it had consequently been building up the Information Strategy Planning (ISP) for 6 months since January 2005. 8 core prosecution programs were produced analyzing demands collected from related ministries, research management institutes, and relevant national R&D project-related infrastructure for foundation information has been pushed ahead since 2006.

A collaboration system both inside and outside NTIS was arranged and started operation in March 2007 for effective prosecution of NTIS programs and reinforcement of inter-ministries cooperation. The science and technology related ministerial council held in May 2007 determined to coordinate the previous 8 core prosecution programs into 7 taking into consideration the change in environment and deliberated and passed the NTIS Project Prosecution Plan (2007~2009) which prescribed 14 detailed prosecution projects gathered from demand assessment.

National R&D information standards were developed to be applied under a trans-ministries scheme in August 2007 and started providing the public, according to the user's access authority, with information related to national R&D project with the cooperation of 15 ministries as of the end of May 2008.

SOP has been being implemented since it was set up in 2007 for stable operation and determined responsibility sharing. The Regulation of National R&D Project Management was revised in May 2008 aimed at specifying representative technical organization for each ministry and connecting to NTIS to flawlessly process information integration under a real time scheme among 15 ministries.



The NSTC deliberated and passed in 2010 the NTIS Made Advanced plan (2010~2012) to jump into e-business infrastructure.

Table 2. Prosecution programs by stage

	Prosecution Programs
Stage 1 (2006-2008)	A. Support of national R&D project management infrastructure B. Establishment of science and technology human resources operation system C. Management of integrated utilization of facilities and equipment D. Support of comprehensive performance management E. Integrated infrastructure establishment for science and technology information
Stage 2 (2008-2009)	F. Support system establishment for technology and industry information G. Support system establishment for local technology innovation
Stage 3 (2010-2012)	A. Aggressive response system establishment for national issues B. On-demand information oriented scheme C. Open cooperation reinforcement in national R&D D. Trans-ministries activation of national R&D information sharing E. Transparency support of research management F. Prosecution of national R&D information map G. Stable operation of stage 1 and 2 and improvement of common foundation

Stage 1: Infrastructure Establishment for National R&D Projects (2006~2008)

Infrastructure for national R&D projects was built up during 2007~2008 on the basis of the ISP prepared in 2006.

A. Support of national R&D project management infrastructure

Comprehensive support services for notification of national R&D projects, investigation and analysis, assessment, and budget adjustment and assignment.

B. Establishment of science and technology human resources operation system

A support services for systematic management of participants in national R&D projects via the current state and its analyses on human resources



taking part in national R&D, which establishes and shares the information on potential participants and assessment commissioner's pool with cooperation with relevant ministries.

C. Management of integrated utilization of facilities and equipment

Supportive services for effective management and common utilization of research facilities and equipment via life cycle information management encompassing their introduction, implementation and disposal.

D. Support of comprehensive performance management

Services for comprehensive analysis and management of research performance produced by national R&D projects and in support of their common utilization at the nation level. It provides performance statistics of each ministry and their information at large.

E. Integrated infrastructure establishment for science and technology information

It accounts for the infrastructure for systematic linkage, integration and circulation of the national R&D information.

Stage 2: Support System Establishment for Technology and Industrial Information and Local Technology Innovation(2008~2009)

Stage 2 is designed to stabilize Stage 1 and extend its service to technology and industry and to local technology information.

A. Support system establishment for technology and industry information

Services to comprehensively provide technology trend, technology level, national R&D project, human resources, and performance information connected to the core sciences and technologies following the Science and Technology 577 Initiative.

B. Support system establishment for local technology innovation

Services to comprehensively provide the status of local R&D projects with or without central governmental finance.

Stage 3: Advancement of Service (2010~2012)

Stage 3 is designed to build up an open, cooperative participation scheme to jump into national R&D e-business infrastructure true to its name.

A. Aggressive response system establishment for national issues

Services to reclassify the R&D information belonging to NTIS including projects, human resources, performance, facilities and equipment, according to pending national issue technology.

B. On-demand information oriented scheme



Services providing analyses and statistical information in accordance with real demands to effectively support R&D planning and decision making.

C. Open cooperation reinforcement in national R&D

Services providing crowd sourcing that supports problem solving by spontaneous information sharing among researchers.

D. Trans-ministries activation of national R&D information sharing

Establishing and operating a service of clouding computing-based national R&D information sharing that leads to easy, common utilization of national R&D information under a trans-ministries scheme.

E. Transparency support of research management

Services to build up a “researcher registration program” to hierarchically manage and reserve national R&D project participants and to improve relevant administrative convenience.

F. Prosecution of national R&D information map

Services to provide high value by making intellectual the NTIS information with the help of semantic web technology, etc.

G. Stable operation of stage 1 and 2 and improvement of common foundation

Information security strengthening strategies to offer quality NTIS service which includes reinforcement of data quality management hierarchy under a trans-ministries scheme, continuous extension of real time linkage to national R&D information gathering, web accessibility expansion of information-alienated stratum, and strict screening out of cyber terrorism.



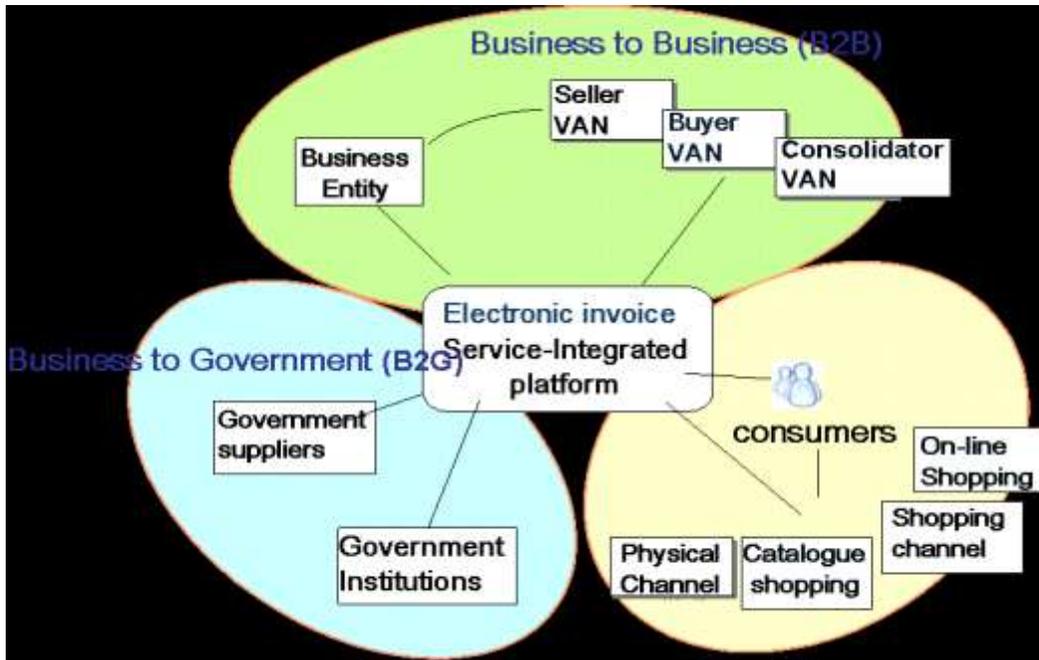
Country	Taiwan
Project Title	Impetus of E-invoices and its Application to the Metropolis
Project Leader	Su, Chun-Jung
Organization	Kojima Press Industry Co., Ltd.
Category	Electronic Business in Public Sector

Abstract:

In Taiwan, paper invoices has been implemented for over 60 years, played a critical role of tax auditing for the Ministry of Finance. Yet, total amount of paper invoices (apply for purchasing) a year is 8 billion which required 80,000 trees and 3,200 tons of CO₂ caused. Until Sep. 30th 2011, more than 22 million e-invoices were issued, and we have confidence to reach the goal of issuing 4 billion e-invoices each year in next few years.

The e-invoice is a secure, cost-efficient electronic version of the paper invoice that is used to track the transactions of goods, services and other expenses. When this project is completed, companies and consumers will have the option of receiving e-invoice in electronic format.

The application of e-invoice can be categorized in three aspects according to the players involved in transaction:



Electronic invoicing is a major step towards expanding the use of electronic commerce and is the priority in MOF’s list of policies.

Goal	Strategy	Implementation
Innovation	<ul style="list-style-type: none"> Innovative technology Secure and user-friendly system 	<ul style="list-style-type: none"> Build E-invoice platform Smart life promotion
Service	<ul style="list-style-type: none"> Fulfill consumers’ needs Change consumers’ habits 	<ul style="list-style-type: none"> Saving consumers’ time Provide spending management service
Saving	<ul style="list-style-type: none"> Resources well organized 	<ul style="list-style-type: none"> Maximize benefit of energy saving Minimize cost of paper invoice
By implement strategies mentioned above to reach the goal of Innovation, Service and Saving.		



Country	Japan
Project Title	Realization of Green Cloud Computing ~ Green EDI collaborating with Financial EDI ~
Project Leader	Youichirou Kojima
Organization	Kojima Press Industry Co.,Ltd.
Category	Business in Private Sector

Executive Summary:

Our approach toward Green IT started with internal activities under the slogan of “CO₂ reduction through Green IT” in 2005. Our group companies achieved significant results by integrating hardware and using common software. To produce further effects, these activities need to be practiced in society as a whole. For that purpose, we have developed “Green Cloud Computing,” a social action program focused on the automotive parts industry and small and medium-sized businesses outside the framework of a single company.

With the spread of the Internet, web-based EDI (electronic data interchange) systems have been increasingly used as a means to exchange information between individual companies. In the automotive parts industry in among SMEs, where no industry-standard EDI system has been established, many different terminals and screens must be used, due to the lack of system integration between companies. In addition, not many small and medium-sized businesses have introduced computer systems, due to the significant costs involved. They mainly use paper documents, e-mail and fax and do not have EDI systems. Taking these facts into consideration, we have constructed a Green-EDI system (“SaaS-based Cross-industrial Standard EDI”) tailored for the automotive parts industry and small and medium-sized businesses.

The EU currently leads the world in promoting environmental regulations. A system called REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) has been established there, to fundamentally review controlled chemicals and expand the range of control subjects to cover articles in addition to substances. A huge amount of effort is required to ensure an updated, comprehensive grasp of the compatibility of various chemicals with all laws and regulations both in and outside Japan. The SaaS-based Environmental Information Management System (for REACH and Other



Regulations) was developed as a Green-EDI application to solve this problem.

In addition, the Environmental Information Management System now has an emissions trading function. Individually-owned hardware systems for managing emissions trading are likely to emit significant amounts of CO₂, resulting in an absurd situation. A system that manages environmental information must itself take Green IT into consideration.

Finally, the system also allows financial EDI coordination (coordination of money flow, sales information flow and materials flow) as an additional Green-EDI application.

Conventionally, networks for exchanging account transfer information, order information, and specific information on movable properties have been available for money flow, sales information flow, and materials flow, respectively, in such a way that they are only accessible to the parties directly involved. There has been no mechanism that allows information sharing across different sectors or information coordination beyond system boundaries. This lack of coordination has limited the user's ability to trace or reuse information, increased companies' paperwork costs and closed the door to new business models using information.

We clarified problems and needed changes in information coordination and worked on a feasible mechanism to resolve or satisfy them. We then designed a financial EDI coordination system based on our Green-EDI system "SaaS-based Cross-industrial Standard XML/EDI" with the aim of improving cash management in sellers, improving the competitiveness of the whole supply chain, making paperwork in purchase and accounting departments more efficient, and resolving mistakes in calculation through synchronization of acceptance with payment.

Effects of the SaaS-based Cross-industrial Standard XML/EDI system

- Greening effect:

- Medium-sized businesses: CO₂ reduction of about 2.43 t/year (per company)

- Small-sized businesses: CO₂ reduction of about 0.97 t / year (per company)

Effects of the SaaS-based Environmental Information Management System (for REACH and Other Regulations)

- Effect on man-hours:



Reduction in management man-hours: Reduction of about 85% or more (individual small and medium-sized businesses)

Effect of financial EDI coordination based on a Green-EDI system

- Effect on man-hours:
Reduction in management man-hours: education of about 70% or more



Country	Thailand
Project Title	KTB Invest Smart Card (KBT Oil Fund Card & KTB Gold Invest Card)
Project Leader	Dr. Anuchit Anuchitanukul, Senior Executive Vice President Managing Director
Organization	Krung Thai Bank Public Company Limited
Category	Electronic Business in Private Sector

Executive Summary:

In the areas of financial products and services and financial process development, the innovation is very crucial to strengthen KTB's short- and long-term strategic plans in order to achieve the marketing position to be the Convenience Bank for our customers. Since 2009, KTB has set a strategic plan to create new financial innovations to meet and serve the customers' needs. This plan will assist the firm to achieve the missions to become a leading commercial bank in Thailand and to create a sustainable profit for stakeholders.

As one of the largest commercial banks in Thailand, KTB always conducts marketing research and develops a variety of convenient financial and investment products and services to efficiently serve the customers. Therefore, KTB has invented the KTB Invest Smart Card in order to facilitate the customers' need to invest in commodity markets and to effectively hedge commodity price fluctuations. Created as a convenient financial tool, "KTB Invest Smart Card" is a bundled product between KTB Visa© Debit Card and KTB's established commodity-linked mutual funds. Before initiating a bundled product between Visa© Debit Card and commodity-linked mutual funds, KTB explored several models and methods to create the best practice with feasible outcomes and reasonable costs for our customers. KTB tested several solutions such as hedging with physical oil and gold in storage or using futures contracts to manage the commodity price risk. However, it is found that these proposals do not work for KTB's retail customers as they encounter a huge cost of operation and hedging activities. Constantly investigating, KTB finally discovered the "KTB Oil Fund Card and KTB Gold Invest Card" that the firm believes is the best solution for the customers.



The KTB Invest Smart Card can help retail customers gain a reasonable return from trading their mutual funds on oil and gold prices. For the customers who regularly pay for their petrol, they can apply for the KTB Oil Fund Card. For the customers who regularly invest in physical gold, they can apply for the KTB Gold Invest card.

Since the launch of the KTB Oil Fund Card on 21st October 2010, the KTAM Oil Fund has increased from around Baht 80 Million to Baht 500 Million currently, or an increase of 625 percent (Table 1). The KTB Oil Card that has been issued to our clients totals around 1,000 cards. Also, since the launch of the KTB Gold Invest Card on 15 November 2010, the KTAM Gold Fund has increased from around Baht 34 Million to Baht 200 Million currently, or an increase of 580 percent (Table 1). The KTB Gold Invest Card that has been issued to our clients totals around 700 cards.

Table 1: KTAM Oil Fund and KTAM Gold Fund Growth Induced by KTB Invest Smart Card

	Fund Size Before KTB Invest Smart Card (Baht Million)	Current Fund Size (Baht Million)	Growth
KTAM Oil Fund	80	500	625%
KTAM Gold Fund	34	200	580%

It should be noted that advertising of the KTB Oil Fund Card and KTB Gold Invest Card has been constrained by the SEC. Therefore, the growth of card issuance is steady but lower than our target plan.

Table 2 shows the total amount of KTB Invest Smart Card in terms of transactions via EDC and fund purchase.

Table 2: KTB Invest Smart Card Total Transactions

	Year 2010	Until July 2011	Total
Transactions via EDC	456,306	2,653,506	3,109,812
Fund Purchase by Cards	759,900	3,885,700	4,645,600



Country	Chinese Taipei
Project Title	The Cool Chain System Development of Chinese Fast-Food
Project Leader	Mr. Steven Chang, General Manger
Organization	Formosa Chang Inc.
Category	Electronic Business in Private Sector

Executive Summary:

The fast food industry has faced with a dilemma between frozen storage and cool storage; the former is with high energy consumption and at a sacrifice of flavor, whereas the latter with potential risk of temperature abuse and high management costs. In addition, existing technology focusing on multi-zone single logistic chain cannot cater to the needs of food industry, which tends to confine the scope of food supply.

In order to provide a solution to this dilemma, Formosa Chang has devoted over NT\$ 60 million to the development of new cross-logistic cool chain system in compliance with the international food standards, ISO22000/HACCP. This project is implemented by following three facets with a breakthrough in transformation of over 50% products from frozen storage to cool storage, innovation on new cool chain traceability system, and development of wireless temperature sensor devices.

- 1. Technology facet:** In collaboration with Institute of Information Technology, system integration company AjaxSoft, and food technology experts from National Taiwan Ocean University, this project devotes R&D efforts to full-process cool chain temperature traceability system, including cross-logistic temperature traceability and four types of wireless sensor devices (see illustration in Fig1). The well-constructed new temperature control mechanism is able to reduce the potential temperature abuse risks of cool storage products.
- 2. Operation facet:** In compliance with international food safety standards ISO22000, this project converts 18 products (Which account for over 50% of all products) under the categories of “meat”, “soup”, and “others” from frozen storages to cool storage. Cool chain standard operating procedure (hereafter SOP), inclusive of temperature abuse control standard, is completed as well. Strictly observing First In First Out (hereafter FIFO) principle, the business operation process is also redesigned with a full-process transformation from frozen to cool in supply chain and unfreezing



process at branch restaurant. With this change, the power usage effectiveness is estimated to improve by more than 10% as a whole.

3. Product facet: In collaboration with China Pacific Catering Services and Hi-Life convenience stores, Formosa Chang provides 4 types of cool storage meals for 6 international flight routes, braised pork rice meal box series for 1200 Hi-Life convenience stores, and home delivery products from store. To ensure product diversity, Formosa Chang set up its business target of launching a new cool storage product every month. With these changes, the annual sales of braised pork rice have rapidly increased from 4.44 million bowls in 2009 to over 6 million bowls in 2010.

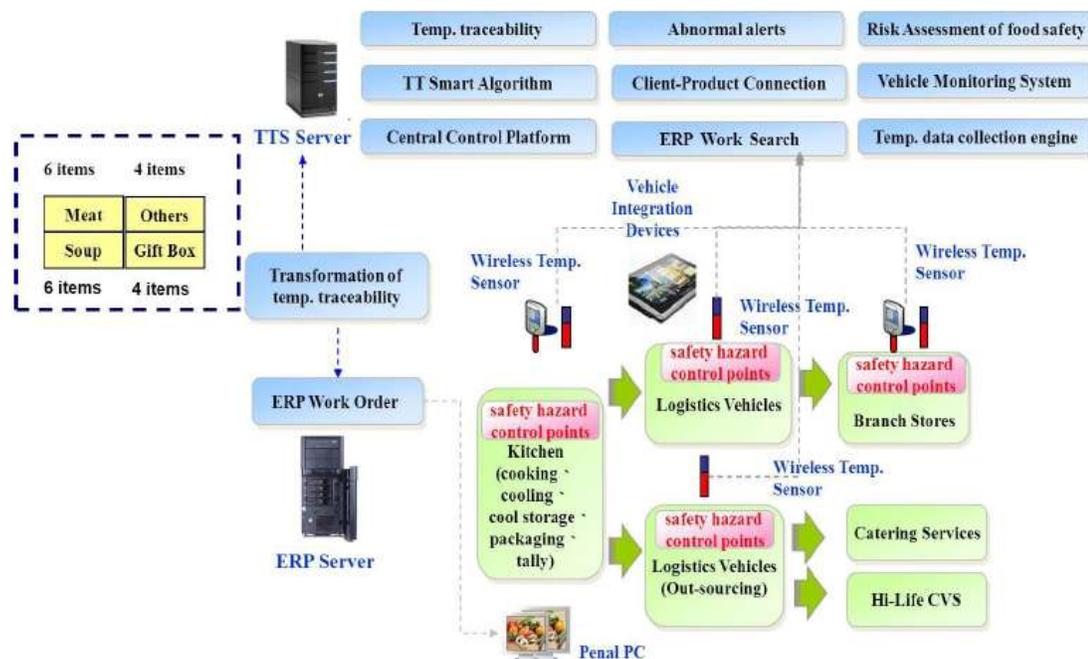


Figure 1. Integration of Software- and Hardware- based Cool Chain System

This project has to date contributed to over 150 job opportunities and generated additional revenues of over NT\$ 200 million. Beyond business success, in collaboration with convenience stores, Formosa Chang makes a breakthrough of cross-logistic temperature monitoring cool chain system which set a model example for the industry. Its next step is to increase coverage of cool storage product from 50% to 75%, make a solid integration of cool chain and risk management system with upstream suppliers, and bring forth applications in other industries such as catering, food processing, medical, and nutrition.



Country	INDIA
Project Title	Tracenet (Certification & Traceability System for Indian Organic Products)
Project Leader	Mr. Sudhanshu/ Deputy General Manager
Organization	Agricultural & Processed Food Products Export Development Authority, Ministry of Commerce, (APEDA)
Category	Bridging Digital Divide

Executive Summary:

Introduction

Tracenet is an IT enabled web based certification cum traceability system being implemented by APEDA for Organic products being exported from India. The system was launched on 15th May, 2010 and covers 20 certification bodies, 1400 individual operators, 2400 group operators and more than 4 lakh farmers. The system ensures consistency in data at the country level and brings each and every stakeholder at the same level thereby ensuring equal opportunity to all of them. The system has also helped to achieve consistency in export certificates ensuring compliance with domestic and International standards.

Tracenet is a first of its kind traceability system for organic products at National Level!

Background

India has the legacy of thousands of years of organic farming and most of the Indian Farmers are traditionally equipped for best practices required for Organic Farming. However Indian Organic Produce was not getting the required recognition and value proposition in the absence of a reliable certification and monitoring system.

Hence Government of India came up with National Programme for Organic Production (NPOP), putting in place an accreditation programme for certification bodies, norms for organic production, measures for promotion of organic farming etc. However, the widespread non-uniformity in data management and certification by the accredited certification bodies was not



generating the required trust on NPOP implementation among the global buyers.

Hence APEDA, the Secretariat for NPOP in India, conceived Tracenet, an IT-enabled Certification-cum-Traceability system, with uniform, consistent, transparent data management and certification system that shall establish traceability of organic products export consignments back to the farm level. It also helps to monitor the overall growth and market access of Indian organic products.

Current

Tracenet has been developed under the aegis of NPOP; the NPOP document serves as the guiding principle for the Tracenet.

The system integrates all the stakeholders involved in export of organic products from India namely Farmers, Exporters, and Grower groups, Processors, APEDA - through web enabled software which can be accessed through APEDA's website.

<http://apeda.gov.in/apedawebsite/TracenetOrganic/TraceNet.htm>

The system captures only relevant data at the time of change in ownership of product that is to be finally exported. The data is captured by the Grower Groups themselves and vetted by a certified organization (Certification Bodies accredited by APEDA).

The output of the system includes Scope Certificate, Transaction Certificate, MIS reports (Product, Quantity, Importing country, Value of export) etc.

Reason

The major reasons for conceiving Tracenet including the above are as follows:

1. Growing concerns about food safety around the world, reflected in their sanitary and phyto-sanitary measures
2. Non-uniformity in data management and certification by the certification bodies in India was widely prevalent, leading to mistrust.
3. Requirement to establish timely recall procedures, as a part of food safety initiatives
4. A suitable system was required to ensure importing countries that enough measures are being undertaken by Indian authorities towards export of safer and high quality organic food products.
5. Development of Organic Sector in India, to benefit farmers and other stake holders with better value realization, and get credibility for Indian



farmers for their rightful legacy of thousands of years of traditional organic cultivation in India.

Objective of Tracenet

1. Implement a consistent, uniform, transparent, IT-enabled Certification system for Organic handlers and their products.
2. Ensure compliance with the required standards (Domestic as well as International) and Monitor the export of Organic products from India.
3. Generate Confidence among global buyers and consumers about the genuineness of Indian Organic Produce and indirectly help every stake holder in the supply chain, from exporter to the farmer getting the desired value for their produce.
4. Provide a level playing field for all stake holders in the supply chain, among farmers, processors, grower groups and certification bodies.
5. Achieve farm to fork traceability.

Achievements

- ✓ Certificates issued in a year since launch
 - Scope (Registration) certificates : 3,829
 - Transaction certificates : 10,313
 - Export Transaction Certificates : 3,465
- ✓ Successfully running for more than a Year, resulting in a consolidated database of all registrations and activities related to Operators within Organic world of India, including registration, inspection, production and export details.
- ✓ Tracenet has tremendously reduced time in processing of the applications of beneficiaries.
- ✓ APEDA can trace details of every export consignment right up to the farm level.
 - Every consignment that goes out of the country has a bar code printed on it with a unique 26 digit TC no. which follows GS1's international standards.
 - Using this TC No. all the lots that were used in any particular TC can be traced. Each lot No. is identified with a unique number.



- From Lot No., system can trace from which farm the product was sourced.

Economic Benefits

- ✓ The application has been developed, hosted and managed by APEDA at its own cost and hence zero cost is incurred by the stakeholders in using this system. Though some initial costs were incurred by them into bringing the data of more than 2000 Grower Groups into the system, this will ensure minimal cost in terms of data management and paper usage in coming years.
- ✓ It has been generally felt that it would increase the value proposition for the farmers and processors of organic products, by providing the required credibility of the organic production process of India, thereby facilitating the exporters to better market access and prices. It has exposed the best practices of organic production across the country to all stake holders, at no cost to them. The system has led to a Tracenet universe which is depicted below :





Country	Taiwan
Project Title	The Project for Providing Assistance of Digital Opportunity Center - New Taipei City, Taoyuan County, and Lienchiang County in Taiwan.
Project Leader	Ms. Hsiao Ya Yun, Manager
Organization	China Productivity Center (CPC)
Category	Bridging Digital Divide

Executive Summary:

With the rapid development of information and computer networks, information technology has become an integral part of daily life and even a fundamental right. If information technology is not equally accessible by everyone, social injustice will arise. Therefore, in recent years, many organizations around the world have invested substantial resources to establish research into the digital divide and institutions to address the question of how to reduce this digital divide. The government in Taiwan also considers the digital divide to be a very serious problem. Access to information is an important indicator for measuring the extent of the digital divide, and the government should make network and computer hardware facilities available to all citizens on an equal opportunity basis so that every person can enrich his or her life through information technology. The digital divide resulting from limitations caused by geographic factors and social structure should also be narrowed. In particular, the government should introduce subsidies for the construction of information infrastructures for disadvantaged groups and those living in remote areas of the country.

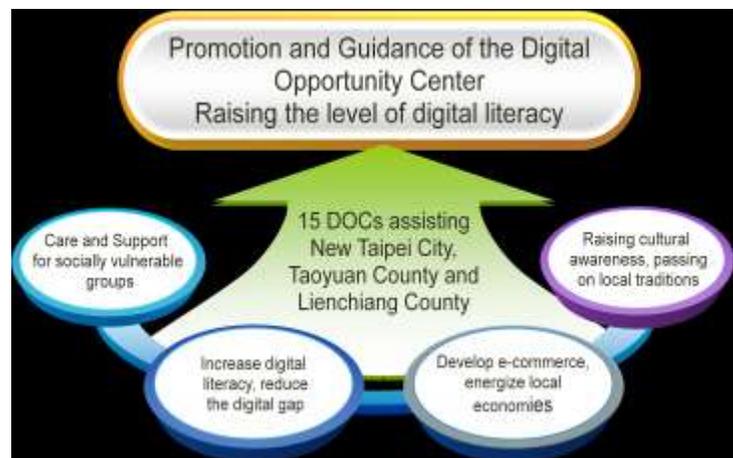
The government's Four-year Project to Reduce the Digital Divide, proposed in 2004 and undertaken by the National Information and Communications Development Advancement Committee of the Executive Yuan, included bridging the digital divide as one of its major national policies, and was later incorporated into the Intelligent Taiwan Project in 2008, which comprises the following 6 sub-projects: Wireless Broadband & Convergence Network, Cultural and Creative Industries, Superior e-



Government, Demand-Driven Applications, Opportunity Equivalence, and Manpower Cultivation. The project aims to steadily reduce the digital divide by utilizing public and private-sector resources to provide equal access to digital information to citizens of each region, members of all ethnic groups, and industries so as to benefit disadvantaged groups, create fair and equal digital opportunities for all, and improve the country's international image.

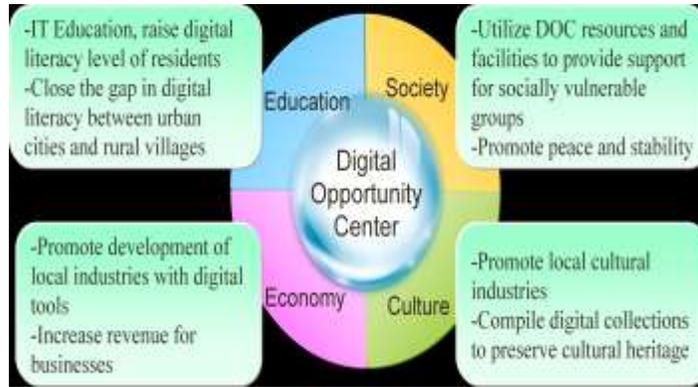
The government strives to provide fair and equal digital opportunities to remote and rural areas through sub-projects under the Intelligent Taiwan Project. These include the lending of electronic equipment by the Research, Development and Evaluation Commission (RDEC), increasing equal opportunity channels for accessing information, encouraging exposure of disadvantaged groups to information from the rest of society, and sharing the conveniences of e-Government services.

The Center being a non-profit organization providing support to the Ministry of Education, provides remote areas with DOC courses and counseling services regarding local industries, culture and childcare. Some of these services include raising digital awareness and literacy, improving abilities of DOC operators, training community service volunteers, etc. The centers also provides counsel developing local industries and digital cultural collections, after-school programs for students in remote areas and strives to reduce the gap in digital literacy and accessibility between the urban and the rural. It provides operational planning documents and operation models for the Digital Opportunity Centers and promotes events and activities to lessen this digital divide. Since March of 2008, the center has counseled the three areas of New Taipei City, Taoyuan County, and Lienchiang County with a total of fifteen Digital Opportunity Centers.





We maintained communications with each local DOC to help them achieve their individual goals and aspirations. Through IT education and individual counseling, each



DOC expanded with its own unique style and purpose. Over 3,000 hours of IT courses have been taught at the centers and more than 30,000 people have completed the training courses, assisting the centers in various economic development projects, including e-commerce websites for Yehliu's Hung-li Seafood, Sanzhi's Butterfly Mama, Pingxi's Baishi Garden Park and Pingxi's Fuzhu Farm, as well as local digital cultural archives, such as Shuangxi Cultural Museum postcards, Sanzhi's Butterfly Mama patchwork bags, Grandma Yehliu Workshop's Queen's Head ornaments and the e-book publication by Grandma Yehliu's script *The Centers* also helped three stores apply for and receive their GSP (Good Service Practice) certifications and was involved in more than five travel Taiwan projects. In addition, a continuous effort is made to reduce the urban-rural digital divide and strive for the ultimate goal of independence and sustainability.

Through the four innovative principles of practicality, informatization, sustainability and creativity, we aim to help people in remote areas enhance profitability, improve accessibility to digital resources and promote local education, culture, or distinctive industries such as forestry, tourism, and fisheries. We utilize the 4 strategies, as well as Internet Marketing to promote consistently the characteristics of the DOC. During the practice period, we assist the DOC to set up a joint marketing website, help to apply for PChome online platform, and continuously to maintain links with the website of the Ministry of Education. Furthermore, in order to propagate local characteristics to the world and make more people understand DOC events and the remote areas of Taiwan, we consistently to instruct local residents to design their BLOG sites and apply for microblogs, such as Facebook, media coverage and public service, regard them as marketing related platforms.

In addition to developing each DOC's distinguishing features, we have also been in contact with the private-owned APEC Digital Opportunity Center (ADOC), and so far the ADOC has visited 2 DOCs, Yeliu and Luofu. Also, we have brought EU education experts to tour the Sanxia DOC and taken industry and business officials from Honduras to visit the Sanzhi DOC. We



hope that such exchanges with experts from different countries not only help us absorb educational experiences from overseas, but also promote our model internationally and allow more members in Taiwan and abroad to learn from each other.

“Taking advantage of unlimited digital opportunity” as its main objective. Through overall planning efforts, the Digital Opportunity Center attempts to gain a better understanding of the principal factors in creating the digital divide and has adopted During the four years of the project’s implementation, we have come to understand the needs of the communities and have experienced many moving moments. We hope that with assistance provided by DOC, remote areas will be able to accomplish the following. In terms of education, they will continue to offer courses relevant to local residents and new inhabitants, whereas in culture, they will preserve the cultures of all ethnic groups e.g. those of indigenous peoples, folklore and artifacts, and Yehliu elders’ knowledge of the ocean, through digital cultural archives. In addition, such as taking care the new inhabitants, almost of Taiwanese brides are married from Vietnam, Myanmar, China, Thailand, Philippines, Korea, etc., we assist them to learn the Chinese language and Taiwanese Culture by digital technology tools to be immersed in local life and culture.

Socially, they will be able to continue providing after-school counseling and guidance to children so that DOCs in remote areas will become havens for learning. The DOCs should also continue to care for disadvantaged groups through community associations and centers for the elderly in schools. With respect to economic aspects, we will continue our efforts to create more employment opportunities to ensure that DOC will continue to survive and function for the foreseeable future. We hope to continue to offer courses to rural residents on information technology (e.g. filing tax returns online, accessing e-Government information, purchasing railway tickets online, creating digital presentations, Word and Excel documents, and setting up blogs and Facebook), so that local culture can be propagated to the outside world through these digital technologies. In addition, we will endeavor to create new topics of discussions and opportunities to promote DOC and improve its visibility.

We still have a long way to go. Our objective is to reduce the digital divide and enable rural and remote communities to gain access to unlimited opportunities for growth, allowing them to develop a self-sustainable economy and sharing the success of Taiwan with the rest of the world.



Country	Vietnam
Project Title	Shorten digital Gap by Broadband Internet (VNN network): Mega VNN, Fiber VNN
Project Leader	Le Ngoc Duc - Director
Organization	Vietnam Data Communication Company (VDC)
Category	Bridging Digital Divide

Executive Summary

Internet nation-wide knowledge networking

With the aim of helping people in rural and remote areas of Vietnam to approach services of posts, telecommunications, technology, the Vietnam Posts and Telecommunications Group (VNPT) and its member of Vietnam Data Communication Company (VDC) altogether build the nation-wide system of Communal Cultural Postal Offices. There have been more than 8,000 Communal Cultural Postal Offices so far; among those are 1,524 posts and points locating in especially disadvantageous communes.

At the same time with investment of equipment, furniture, Internet networked MegaVNN broadband computers, bookcases, service staff... VDC/VNPT organizes many propaganda activities, popularizes knowledge of technology to teenagers and youths in rural areas through such programs as: youths Knowledge Networking, One-million-hour Partnership, Knowledge Garden, Love Networking... to give a hand in assisting rural teenagers and youths in approaching various information sources, scientifically technical knowledge for learning, career guidance and hunger elimination and poverty reduction.

In 2011, the Program of Internet Points for youths locating in 62 poor districts will be launched as a new stage of the project.

Implementation time: From June 2011 to December 2011

Content

The orientation of The Internet for Youth Center

+ Universalize computing and Internet: introduce basically about computers and internet, learning how to using word, using e-mail, exploiting



electronic portal of Youth Union of Vietnam Posts and Telecommunications Corporation and some other useful websites.

- + Access Internet Location: local young people are guided to access to useful websites for learning purpose, applying science, technology, and healthy entertainment knowledge.

- + The Youth Center: exchange information about events, movements, activities of Union, Association, Team; the activities of youths teenager location; training skills and professional knowledge location for Youths Union members as well as a place of career consulting for young people.

- + Charge fees according to the regulation to increasing revenue for maintaining the operation of Internet Center. Set priority of sale telecommunications - information technology services of the VDC/VNPT.

- + Forming textbook: forming common textbook for universalization basic computing.

Typical of an Internet for Youth Center:

- + Scale: there are at least 6 computers; Internet device connection; 6 set of tables and chairs, 1 printers; a suitable area with basic infrastructure (electricity, Internet access link...).

- + Activities: these following services are provided by those Internet Center in at least: universalize computing, Internet, electronic libraries and the popularization of scientific and technical knowledge; the Internet access service; location of youths activities and some other services.

- + Time of using and managing: The Internet Center will be supervised by the School Management Board, by the Youth Union of school or social and coordinate controlling by balance method, in detail: free opening from 9AM-10AM; 2PM-3: 30PM on Monday to Friday of every week (under supervision of School Management Board) open and access charges on other out of those above said of time and on Saturday, Sunday.

- + Request for performance team: young people with secondary school of education at least, health, work enthusiastically, to sticking by their native village, especially for young people who have the knowledge of information technology.

The project contributes to realize and accelerate the process of finalizing the Project of Developing Information and Communication in rural by the Government in 2011-2020 for improving broadband services to the most of villages; coverage mobile broadband to 95% of the population and approach to one of 55 countries in the ranking of ITU (1/3 of leading country) in 2020.



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Meeting History

No.	Year	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
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 &



No.	Year	Date	Place	Remark
				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
25th	2007	Aug. 6~10	Bangkok, Thailand	AFACT Plenary & EDICOM '07
26th	2008	Oct. 13~16	Seoul, Korea	AFACT Plenary & EDICOM '08
27th	2009	Nov. 2~6	New Delhi, India	AFACT Plenary & EDICOM '09
28th	2010	Nov. 24~26	Yokohama, Japan	AFACT Plenary & EDICOM '10
29th	2011	Oct 31~ Nov 4	Taipei, Chinese Taipei	AFACT Plenary & EDICOM '11



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