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PREFACE: I

AFACT Chairman, Dr. Mahmood Zargar



I'm very pleased to welcome you AFACT members to Iran for 30th AFACT meetings. It is our honor to organize the AFACT meetings in the year of 2012.

The last AFACT meeting we organized in Iran was 1998.

In the world with Economic Crisis since 2007, economies in Asia have become the key drivers for the recovery from the Crisis. That means trade facilitation by simplification of trade procedures and

promotion of paperless trade in Asia as an important tool became much more significant than ever. Consequently it is our hope that AFACT meetings organized by Iran would help drive the activities and cooperation of the experts from member economies toward the objectives of AFACT.

Today we can generally categorize countries into three main groups: Those who have already executed Trade Facilitation (TF) solutions; Countries which are working on implementation of TF methods and finally the countries who have not been successful in starting the implementation phase yet. This is the why the world economy is now looking for new secure and integral solutions in managing the supply chains and using new technologies to be used by all countries.

I firmly believe that AFACT community like other responsible organizations in the world should follow two approaches:

- Help its member countries to reach to the TF goals faster;

- Find its role in the Asia Pacific region in dealing with the related regional and international expert organizations on TF solutions.

We look forward to working with other members of the AFACT community to research and promote the development of Trade Facilitation initiatives that enables us to grasp new economic opportunities.

This is the second time that we have added reports from the Executive Committees, two working groups into our yearbook.

In this year unfortunately, we lost one of our active members, Mr. Javed Naushahi the HoD of Pakistan. He was a key person in AFACT specially when acting as the AFACT chair in Pakistan in 2006. I have always in grateful for his contribution to AFACT and hope for he will rest in peace.

In this year also, four new members joined AFACT as the new HoDs of the member countries.



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2012 AFACT Year Book Asia Pacific Council for Trade Facilitation and Electronic Business

This yearbook is featuring AFACT's achievements over the last year. I would like to express my gratitude to all who have made this possible.

1.

(Mahmood Zargar) Chairman of AFACT, 2012 mahmood.zargar@gmail.com



PREFACE: II

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

It is my pleasure to welcome all the participants of 30th Annual meeting of AFACT 2012 at Tehran, Iran, which has been the permanent secretariat for AFACT for the last two years and host of AFACT 2012 meetings.

AFACT has become With the advancement of new technologies and improved global competitiveness, the role of more significant in order to bring the AFACT



UN/CEFACT

community on an effective and efficient functioning platform where the member countries/economies can work together to exchange views and practical concerns on trade facilitation in the new global environment.

The committees constituted under AFACT have been entrusted with the responsibility for the simplification of international trade procedures, business and governmental process analysis, capacity building, creating awareness and promotion of standards and specifications developed by UN/CEFACT and to promote the implementation of eBusiness Technologies and Methodologies for facilitating e-Business / e-Trade in Asia Pacific Region. These committees need to work actively in synchronisation on the joint projects/activities beneficial for all the AFACT member countries/economies. The role of each committee is important in its own way to support the other committee and integration of work programme of UN/CEFACT, UNESCAP and other related international standard bodies to achieve the goal of interoperability, collaborative e-commerce and increased adaptability in the areas of electronic business and trade facilitation.

I would like to take this opportunity to thank Center for eCommerce Development (ICeCD), the host organization for 2012 AFACT Plenary Meeting and EDICOM in Tehran, and appreciate the efforts made by Iran as permanent AFACT Secretariat for successfully handling the AFACT activities.

(T.A.Khan) UN/CEFACT Vice Chair & Controller of Certifying Authorities cca@cca.gov.in



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PREFACE: III UN/CEFACT Rapporteur for Asia, Dr. Ajin Jirachiefpattana



As we know, information and communication technology (or ICT) is increasingly relevant to our economy, especially in the Asia and Pacific region, whether as a fundamental part of services, such as financial services, health care services, tourism services, government services, telecommunication services, or computing services, or as a traded-good itself such as digital media. Data or information is everywhere and it is growing every day. The potential economic impact of ICT is substantial. Therefore, ICT can play a vital role as a dynamic technological tool to lead us to various sources of

information and will empower us in all aspects such as economy, social, culture and politics.

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.

Without strong support and cooperation among AFACT members, I would not be trusted and elected as the UN/CEFACT Rapporteur for Asia and the Pacific. Although in this year I have not been able to give any contribution to AFACT and UN/CEFACT for some reasons, I still would like to extend my grateful thanks and appreciation to AFACT members, AFACT Secretariat, and other well wishers for their continuous support; and please accept my sincere apology.

In closing, I hope that the 2012 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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Asia Pacific Council for Trade Facilitation and Electronic Business

PREFACE: IV General Secretary of AFACT, Dr. Mahmood Zargar



In the year 2012, Iran as the permanent secretariat tried its best to coordinate and execute AFACT affairs. Here is a brief report of secretariat activities:

1. Update the AFACT website. (www.afact.org). AFACT website plays the role of a reference site in the field of trade facilitation.

2. AFACT conference call meetings - AFACT has most of its meetings through online conference calls. The secretariat

continued using the facility prepared for online AFACT meetings. In the year 2012, AFACT Permanent Secretariat could organized to have more than 7 online meetings with this facility.

- AFACT registration It is decided that AFACT should be officially registered in international communities. Based on that Iran registered the APCFACT (Asia Pacific Center for Trade Facilitation and Electronic Business). One of the duties of this center is to act as AFACT permanent secretariat. So by this AFACT will probably will be able to continue its registration process in ECOSOC.
- 4. AFACT year book The secretariat collected the country reports from country members and then delivered the 2012 year book to the 2012 plenary. As previous years, we have prepared the book in CD format.
- 5. AFACT Brochure The secretariat has prepared an AFACT brochure in this year (Fig below) which defines the AFACT in brief. The brochure also distributed to the visitors in AFACT Mid-Term Meeting in KISH.



6. Future Works – AFACT welcomes new members and so we will coordinate anything needed to reach this goal.

(Mahmood Zargar) AFACT General Secretary mahmood.zargar@gmail.com

PREFACE: I- Steering Committee Chairman, Mahmood Zargar

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About AFACT

AFACT is the Asia Pacific Council for Trade Facilitation and Electronic Business. It's a nonprofit, 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:

- Developing methods to facilitate trade transactions, fit to the member economies and in conformity with f 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.



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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:

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

Associate Members:

Pan Asian e-Commerce Alliance (PAA)



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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



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

Associate Member:

Pan Asian eCommerce Alliance (PAA)



Steering Committee Board Members

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Chinese Taipei Progress Report

30th AFACT Plenary Tehran Iran November 19-22, 2012



Taipei EC/EDI Committee



SECTION I - GENERAL CONDITION UPDATE

1.1 Ranking on the Global Index

Chinese Taipei has improved infrastructure and developed capability for Information and Communication Technology (ICT); their efforts have been recognized by several Global Indices between 2011 and 2012, as shown in Table 1. In the results released by the World Economic Forum's Networked Readiness Index in 2011, Chinese Taipei was listed as 6th in the world.

Furthermore, the Global Competitiveness Index, also analyzed by the World Economic Forum (WEF), ranked Chinese Taipei in 13th place worldwide. In respect to the Cloud Readiness Index, analyzed by the Asia Cloud Computing Association (ACCA), Chinese Taipei ranked 5th. Most importantly, Chinese Taipei ranked 7th in the IMD World Competitiveness Yearbook's most recent 2012 ranking.

Index	Source	Ranking	Time released
Networked Readiness Index	WEF	6 (Globally)	April 2011
		2 (AP)	
Global Competitiveness Index	WEF	13 (Globally)	Sept. 2011
Cloud Readiness Index	ACCA	5 (AP)	2011
World Competitiveness	IMD	7 (Globally)	2012
		3 (AP)	

Table 1. Chinese Taipei's Rankings on Global Indices

Source: WEF (2011), IMD (2012), ACCA (2011)

1.2 Key ICT Index

1.2.1 Mobile Penetration Rate

According to FIND (Foreseeing Innovation New Digiservices, III) statistics, the total number of mobile phone holders in Chinese Taipei in 2006 was 15.44 million, accounting for 67.8% of the nation's population. However, by 2011, the total number of mobile phone holders had increased to 17.87 million, reflecting a respective penetration rate of 77.1%. This indicates a general trend of slight growth in the mobile penetration rate.

1.2.2 Rate of Connecting Internet via 3G/3.5G

The results of an investigation conducted by the NCC (National Communications Commission) showed that 5.54 million users (24%) were connected to the internet via 3G/3.5G in Chinese Taipei in 2011, an 8.3% increase from 2010.





1.2.3 Bandwidth of External Network Connectivity

According to an investigation by the TNIC (Taiwan Network Information Center), the total bandwidth of external network connectivity was 331,283Mbps in 2010, with each person having an average of 14Kbps. In 2011, the total bandwidth of external network connectivity increased to 493,312Mbps, giving each person an average of 21Kbps.

1.3 Status of e-Commerce 1.3.1 Business E-commerce Market

Chinese Taipei's MOEA (Ministry of Economic Affairs) has announced that the ecommerce sector of Chinese Taipei has been steadily growing and is expected to reach a market value of NT\$660 billion in 2012. Last year, the industry recorded a market value of NT\$560 billion and it is expected to continue to expand. Although both the country's economy and export market were affected in the first quarter of the year by the European debt crisis and slow growth of the American and Chinese economies, MOEA may help encourage balanced development throughout the various regions of Chinese Taipei. This city's e-commerce has been growing 25-30% annually for the past several years, but its market value is still less than 10% of the entire country's brick-and-mortar retail businesses.

1.3.2 B2B e-Commerce

While the Chinese Taipei government continues to strengthen the domestic information infrastructure and enhance the degree of enterprises information technology, the proportion of e-commerce transactions between enterprises also continuously increases. The overall amount of Chinese Taipei's B2B e-commerce market was expected to be NT\$11,041 billion in 2011, and is predicted to reach NT\$15,225 billion in 2012 with an 8.4% Compound Annual Growth Rate.

1.3.3 B2C e-Commerce

According to the MIC (Market Intelligence & Consulting Institute), Chinese Taipei's B2C market scale reached NT\$250 billion in 2011, a projected annual growth of 25%.

Statistics from the TNIC (Taiwan Network Information Center) revealed that at the beginning of March 2011, Chinese Taipei's online population reached a record high of 16.95 million people, an increase of 730,000 from the end of last year.

A survey done by the TNIC showed that 70.58% of residents over the age of 12 had



experience using broadband Internet, with 35.88% accessing the internet through wireless devices and 18.82% through mobile phones. Taipei and Kaohsiung, the two largest cities in Chinese Taipei, experience the greatest amount of online usage.

The survey also indicated that 61.23% of those polled had an online shopping experience with a one-time shopping value of NT\$2,000-5,000 constituting the majority of those instances. Of those using wireless internet services, 35.13% said that service is free and 13.67% said that they have to pay NT\$751-1,000 per month. Of those using mobile phones to access the internet, 21.13% have to pay an online service charge of NT\$751-1,000 per month while 16.36% pay up to NT\$1,250.

1.3.4 C2C e-Commerce

According to the estimation of the MIC (Market Intelligence & Consulting Institute), Chinese Taipei's C2C market value in 2010 reached NT\$153 billion; in 2011, the value increased by 20%. Due to the 1.2 million SMEs in Chinese Taipei and the fact that young entrepreneurs are eager to start up their businesses, the C2C e-commerce platform has become a major channel for SMEs and individuals starting up their own businesses.

1.4 Taipei EC/EDI Committee

1.4.1 Introduction

The Taipei EDIFACT Committee (TEC) was established within the Central Standards Bureau (formerly the Bureau of Standards, Metrology and Inspection) of the Ministry of Economic Affairs in 1992 to promote the national standards of electronic data interchange and participate in international standardization of organizations and activities. In 1999, the responsibility for the TEC was shifted to the Bureau of Standards, Metrology and Inspection of the the Ministry of Economic Affairs. Since EDI applications had extended into e-Commerce, the committee was renamed the Taipei EC/EDI Committee in 2000, but retained the same acronym that it had always used: TEC. The current structure of the TEC is shown in Figure1.

1.4.2 Constitution

The General Director of the Bureau of Standards, Metrology and Inspection chairs the Taipei EC/EDI Committee.
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Figure 1. Current Structure of TEC

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

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

According to UN/CEFACT 2011 and to comply with the Core Component Library version D11A, Chinese Taipei has completed proposing the technical standards of the EC/Trade Facilitation Core Component, which include domestic trade facilitation, Transport and Customs, etc., in the Chinese version to enable cost reduction on trading and raise industrial competition.

Version 1: CCL 06A, passed in May 2006 Version 2: CCL 08A, passed in October 2009 Version 3: CCL 09B, passed in September 2010 Version 4: CCL 10A, passed in August 2011 Version 5: CCL 11A, passed in June 2012



SECTION II – EDIFACT/EBXML/XML BASED STANDARDS DEVELOPMENT

2.1 Electronic Data Exchange

2.1.1 Electronic Official Document Exchange (G2G2B)

To enhance the official document exchange's efficiency, RDEC (Research, Development and Evaluation Commission) has developed, through a number of e-Government program stages, the XML based inter-agency document exchange standard, which is a common-licensed version of the electronic official document exchange system for 19 local governments that covers 3,337 agencies and schools and includes web-based exchange systems with a user base of over 6,000 agencies and 397,000 users in total. As of 2011, over 70% of official documents passed between central and local government agencies were exchanged electronically, which thus accelerated document processing to less than 30 minutes and helped reduce annual postage expenses of around USD\$ 2 million.

The success of the inter-agency electronic official document exchange has provided the foundation for the private sector to adopt the exchange standard and systems in its interactions with the government. The government to business (G2B) electronic official document exchange was specially developed with electronic authentication and official document signing functions to significantly cut waste in the time and cost of paper document processing. The Ministry of Economic Affairs has led the effort to provide the private sector with an integrated official document and notification electronic exchange system. The usage rate of the G2B electronic official document exchange has increased annually to reach 22% in 2011, and the G2B service satisfaction rate is now greater than 80% (Figure 2).



Figure 2. G2B Electronic Official Document Exchange - Usage and User Satisfaction Source: Research, Development and Evaluation Commission, Executive, Yuan, July 2012



2.1.2 Licensing and Port Operation Message Exchange (G2G2B)

To handle international information technology development, enhance the efficiency of data exchange between government agencies and trade stakeholders and among government agencies, and step up our international connectivity capability, Chinese Taipei introduced WCO Data Model 3.0 and XML message standard in 2010 to be the new message exchange standard of Single Window and replace the existing EDIFACT EDI message standard. It has been functioning with customs clearance and licensing operation process reengineering to coordinate customs clearance data with licensing data sets. As a result, the data sets have been integrated and merged from 826 items into 538 items. By simplifying customs and licensing messages, we have remade XML messages. The total amount of messages has been integrated and combined to form only 51 sets from the original 81 sets. Because of this change, our customs, licensing and port operations have stepped into a completely fresh message exchange standard environment.

2.2 Digital Publishing XML Standard

With the popularity of the internet, readers have begun to utilize digital content consisting of hyperlinks, multimedia and search engines. As a result, "optional reading", "selective browsing", "keyword search" and "interactive multimedia" have become a new way of reading, so an evolving reading system must be able to support more advanced technology to meet the users' needs. Therefore, the International Digital Publications Forum(IDPF) developed the EPUB3 standard to promote data exchange between reading systems to meet the requirements of the new reading style; companies and organizations in the digital publishing field have been invited to participate in the EPUB3 standard development.

To promote the development of the e-book industry, Chinese Taipei's MOEA (Ministry of Economic Affairs) has supported the Institute for Information Industry and the Industrial Technology Research Institute to collect the industry's consensus and demands and to participate in the EPUB3 standard development in 2010. Together, they lobbied to have 10 requirements, such as "CSS writing mode", "ruby position", "page-progression direction", "multi-column", "multimedia interactive," successfully adopted by IDPF EPUB3 Standard, which was published in October 2011. The implementation and verification of vertical writing and audio standards have both been approved by the WebKit team and IDPF.

To activate digital content in Chinese Taipei, the Chinese Taipei's MOEA has entrusted the Institute for Information Industry (III) with the development of a localized open source editing software, Sigil 0.3.4.1, which can save files in EPUB3.0 standard form. The Sigil editor, with its i18n function, can be used by individual writers and has already been downloaded more than 12,000 times. It is successful at increasing the speed of digital editing in Chinese Taipei by open source. Furthermore, based on EPUB3.0 technologies, the Institute for Information



Industry also developed the "EPUB3.0 Reading System Implementation Guide" in November 2011 to guide the reading system developers to more effectively create an e-book reader. Through March 2012, there have been 367 publishers that have sold a total of 70,000 e-books.





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

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

3.1 e-Government

Since Chinese Taipei's first stage of the e-Government program was launched in 1998, successive phases of e-Government programs have continued to be promoted, and the government has provided proactive, integrated and citizen-centric one-stop online services to its citizens with high satisfaction. As a result, the country has won international acclaim for its excellent service. The development and implementation of key standards and infrastructure technologies have been indispensable to Chinese Taipei's e-Government programs' achievements; the status and achievements of these projects are summarized below.

3.1.1 Government Public-Key Infrastructure (GPKI)

To provide a secure infrastructure for e-businesses and government online services, the private sector and government agencies have cooperated to establish the government certification system. First launched with the auspices of the Chinese Taipei e-Government Action Plan (2001-2004), the GPKI was developed through collaboration from various government sectors, each serving as subordinate certification authorities: the Research, Development and Evaluation Commission (RDEC) is responsible for Government Root Certificate Authority (GRCA) and the Government Certification Authority (GCA), while the Certificate Authority of the Ministry of Economic Affairs, the Ministry of the Interior and the Department of Health (MOEACA, MOICA and HCA) each can issue digital certificates to business entities, healthcare entities and citizens. The GPKI has grown into a well-established e-Government infrastructure. To this date, the MOEACA has issued 1,041,000 business entity certificates to businesses, which accounts for 109% of the companies in Chinese Taipei, and the MOICA has issued 2,463,696 citizen digital certificates, which shows an annual usage rate that exceeds 77.75% (Table 2).

The GPKI infrastructure has thus enabled the development of incredible e-Government applications for both citizens and businesses and has delivered service convenience, administrative efficiency and e-commerce acceleration. 1,544 online government services offer citizens digital certificate enabled transactions; of all the taxes filed online in 2011, 30% of those cases were conducted through citizen certificates. In addition, the digital certificates issued by MOEACA have strengthened



the security of industry and commerce data exchanges and allowed businesses to directly request government services, such as online company registration and einvoices, safely on the Internet.

Table 2. GPKI Cer	tificate Adoption
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	Number of certificates issued	
Certificate Authorities	to date	
Government agency certificate	152,998	
Certificate for mixed organization	59,249	
Citizen digital certificate	2,974,777	
Healthcare entity certificate	188,828	
Business entity certificate	1,041,000	

Source: Research, Development and Evaluation Commission, Executive Yuan, July 2012

3.1.2 Local Taxes Cloud Service Platform

In order to decrease the cost of building and maintaining a redundant platform and encourage a policy of effective resource aggregation, utilization and sharing, we introduced virtualization, automation and centralization into our basic infrastructure to develop an intelligent local tax services platform. Using said platform, we provide service- oriented architecture (SOA) -based operations and management to ensure the availability and consistency of critical systems, as well as to elevate the quality of government service and public satisfaction.



Figure 3. Virtualization Architecture Source: Financial Data Center, Ministry of Finance, July 2012

The local taxes cloud is empowered by database cluster technology and encompasses strengths such as high availability, fault tolerance and extensibility. By using this technology, all applications can share the computing power of the cloud



database and its data dictionary. The cloud database can also meet the performance requirements at both the application and system level with the deployment of workload management and database quality of service (WLM/QoS).



Figure 4. Cloud Database

Source: Financial Data Center, Ministry of Finance, July 2012

3.1.3 e-invoice

For 62 years, the Uniform Invoice System has been a project with a critical role in tax auditing for the Ministry of Finance and an integral part of Chinese Taipei people's lives. With the rapid development of IT technology and the Internet, the format for the implementation of the Uniform Invoice System has evolved from being paper-based to using digitalized data, and now to cloud services. In order to adopt cloud computing for this system, the Ministry of Finance has worked on several features.

Consumer facet: Consumer habits have the greatest impact on the success of this project, and, in order to lower the impact of changes to the system, the Ministry of Finance has developed techniques that help promote adoption by consumers, including the "card-as-an-e-invoice-holder" and "phone-number-as-an-e-invoice-holder", the opening of API queries for Smartphone e-invoice applications, paper printout points at chain convenience stores for paper printouts for lottery-winners and direct deposit of lottery-winner's prizes.





Figure 5. Uniform Invoice Lifecycle

Source: Financial Data Center, Ministry of Finance, July 2012

Social welfare group facet: e-Invoices are allowed to be donated by consumers utilizing the foundation BAN (Business Administration Number, an 8-digit number), but this number is difficult for both sides to memorize. To lower the standard at which donations are given, the Ministry of Finance has deployed a 3 to 7-digit number, a "lovecode", which can be determined by social welfare foundations for easy memorization.

Cloud platform facet: Using MapReduce technology, the e-invoice platform can be dynamically separated into multiple virtual machines for parallel data processing. Our cloud platform can compute an average of 2-3 million invoices per hour.



Figure 6. e-Invoice Cloud Processing Schemes Source: Financial Data Center, Ministry of Finance, July 2012

Government facet: By analyzing a large set of transactional data, the Ministry of Finance can obtain a full understanding of all kinds of patterns of behavior, including actions by fictitious companies and missing invoices in tax evasion cases, as well as

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consumer behavior analysis. What's more, a very advanced economic leading indicator can be comprised directly from the source.

The total number of uniform invoices issued each year is about 8 billion, and this project has contributed to placing ¼ of the invoices issued onto the cloud in the first year of deployment with the establishment of a milestone of ½ the invoices in the next year. Our goals are to simultaneously achieve environmental protection, provide a cloud-service-based invoice system, and reduce the operational costs of enterprises. We predict that the success of this project will recuperate about NT\$114.7 billion per year in cost savings and NT\$37 billion per year in market value.

3.1.4 The Taxation Information System Reform Project

This project is a 4-year (2010-2013) plan based on the spirit of cloud computing techniques, which include the principles of centralized information, shared data and resources. This project aims to establish both a public and private tax cloud to supply taxpayers and tax governmental officials with more flexible and scalable services. This project is described with the three basic types of services below:

3.1.4.1 The Taxation Information Cloud Infrastructure

By making use of virtualized techniques, a dynamic infrastructure platform is created to establish the greenhouse host computer room. This room centralizes IT infrastructures, such as software, hardware, hosts, databases, storage, firewalls, routers, load balance switches and networks, instead of distributing all of them to the NTAs (National Tax Administrations) and local tax bureaus. This helps to make managing and monitoring much easier.

3.1.4.2 The Taxation Information Cloud Service Platform

The SOA (Service-Oriented Architecture) platform integrates different but common requirements to become a standard web service/API. Meanwhile, several services can be combined to flexibly respond to front-end clients' requirements.

3.1.4.3 The Taxation Information Cloud Softwares

Both the public and private clouds are designed with user-friendly interfaces and single sign-on mechanisms. Taxpayers simply log on to the public cloud to use the personalized tax services offered. On the other side, government tax officials can access the private cloud with SSO to connect to both the shared systems and taxation systems. They can also access their to-do lists and latest news based on



their clearance.



Figure 7. Tax Cloud Architecture

Source: Financial Data Center, Ministry of Finance, July 2012

3.1.5 Cloud Computing Industrial Development Plan

The Chinese Taipei government is currently promoting the four largest emerging "smart" industries, including the cloud computing industry. On April 29th, 2010, the Executive Yuan passed the Cloud Computing Industrial Development Plan with the hopes of transforming Chinese Taipei into an advanced country by 2015 in terms of information applications and technology through cloud computing. This will enable the country to develop a better and more intelligent tomorrow, as well as give Chinese Taipei a head start on the path to becoming a technologically leading or tier 1 country.





Figure 8. Vision and Strategy of the Developing Plan for Cloud Computing Industry

Source: Department of Industrial Technology, Ministry of Economic Affairs, July 2012

With the benefit of widespread government support, as well as social, industrial, and economic influences, the Cloud Computing Industrial Development Plan will bolster development of the cloud computing industry and boost core competitive strengths through five key administrative approaches:

1. Increase administrative efficiency in the government: Due to the current restructuring of government organizations, sharing the purchase of server rooms will improve software and hardware managing and government information application services.

2. Increase the country's standard of living: Build Public cloud data centers and create new cloud computing services to popularize use of these services at all levels of society.

3. Increase the added value of hardware: Increase added value based on the manufacturing advantages of IT hardware combined with high added value system software.

4. Encourage private investment to accelerate industry transformation: Utilize cloud computing to promote the integration of software and hardware and help businesses work towards transforming their services into a highly integrated cloud computing service value chain based on cloud computing systems, applications software, and service operations.

5. Strengthen fundamental research and industrial technology R&D: Produce innovative, high-value intellectual property through the use of the R&D of Industrial Liaison Programs.



The Cloud Computing Industrial Development Plan shall be launched with a threepronged development strategy focused on supply, demand, and management. The supply strategy proposed by the Department of Industrial Technology (Ministry of Economic Affairs) focuses on thoroughly integrating the development strategy for the C4 industrial environment, including the following key aspects: promoting innovative consumer experiences and the newly developed business value of cloud computing services as a core, developing cloud computing systems and managing data centers (Cloud), developing cloud computing applications software (Commerce), consistently promoting broadband construction (Connectivity), researching and creating products to use cloud computing (Client), spurring cloud computing systems testing and research and development, and utilizing government policies to drive industry investment and transformation. The demand strategy, proposed by the Research, Development, and Evaluation Commission (RDEC) of the Executive Yuan, which is responsible for the developmental strategy of government cloud computing applications (G-Cloud), includes the following key components: promoting diversified cloud computing applications with electronic versions of the government and model transformation for international exportation; driving the government's cloud computing service applications, developing the 4th generation "e-government", and continuously enhancing the government's operating efficiency; providing guidance to industrial vendors to help drive development, as well as overseeing the completion of cloud computing industrial chains and the significant mission of promoting government cloud computing; the Executive Yuan will gather 26 professionals from various fields such as industry, government agencies, and academia to establish a "Cloud Computing Industry Development Project Instructional Team" to coordinate, integrate, and manage the plan; and the Ministry of Economic Affairs (MOAC) will promote industrial development and encourage companies to invest in the research of self-sustaining technology and innovative application models of cloud computing systems, applications software, and solutions. The Cloud Computing Industrial Development Plan has been predicted to have many benefits, including helping the country's overall administrative efficiency with the promotion of national government administration, societal influence, and the industrial economy. National government administration will improve the efficiency and quality of public services, as well as minimize the time spent on constructing data systems and lower systemic risks by promoting the construction of cloud data centers and government cloud computing services (G-Cloud). This construction will also decrease the expenses arising from software development and marketing requirements and use the distribution model of the software application market to swiftly distribute software products globally through the emerging internet platform, thus creating new opportunities for small and medium-sized enterprises. Furthermore, the structure and operation model of Cloud computing is in accordance with energy conservation principles, carbon reduction practices, and other environmental trends. In terms of societal influence, the Ministry of Finance has implemented the use of electronic receipts and established a unified

cloud computing portal service for customs, maritime law, and trading; these improve taxation efficiency for the government, significantly lower paper usage, and improve the digitization process of industries to increase our trading competitiveness. Compulsory education (K-12) will have 3.5 million students helping to develop cloud education services; in order to minimize the digital disparity between cities and outlying areas, support will be provided to accelerate the distribution of educational. non-profit, and/or commercial digital content. Extending services to families and the general public will further enhance our citizens' cultural awareness. Cloud computing will provide a new business model for computing services and give small and medium-sized enterprises in Chinese Taipei more competitive advantages. In regards to the industrial economy, the plan will strike a balance between hardware and software integration to help make Chinese Taipei the largest cloud computing data export center, providing system integration with high added value and software value-added services. By providing cloud computing data center system software and developing safe, open-source cloud operating systems for global cloud computing operating companies, the plan will potentially attract more than one hundred billion US dollars from markets in cloud computing data center upgrades/implementation, as well as promote cloud computing services for "smarter living", facilitate the internationalization of service industries in order to gain access to the software and hardware integration market worth 100 billion dollars, and create job opportunities by developing cloud computing solution packages that combine software, hardware, and services.

The cloud computing industry is one of the most important industries supported by the government, which will consistently promote the Cloud Computing Industrial Development Plan with its 5 key administrative approaches and 3-pronged development strategy to ensure that Chinese Taipei companies are fully prepared to compete in the global cloud computing marketplace and benefit from large international manufacturers beginning to make large-scale investments.

3.1.6 Technology Research and Development of Cloud Computing Service Project

Chinese Taipei's National Science Council plans to promote the Technology Research and Development of Cloud Computing Service Program, which will provide seamless cloud services to the academic field and research groups. The program targets include self-built shared cloud/clusters and cloud storage facilities; development of cloud computing intermediary and management software, and combining them with distributed cloud computing and storage infrastructure to build an additional cloud data center and cloud environment of technology development; developing information transportation security protection methods for cloud services; and training cloud computing application developers. Meanwhile, the National Science Council is encouraging academia and research groups to participate in



cloud computing, implement the research results of the program and cooperate with industry to enhance domestic cloud technology research and development energy. The National Science Council subsidized two programs in 2011, the Cloud Computing and Communicating Application Service Platform Program and the Group Computing of Location-aware Service Platform and Application System Program.

Chinese Taipei's National Center for High-Performance Computing has completed two self-built cloud/clusters, Formosa 3 and Formosa 4. Formosa 4 obtained the overall best performance for 70 TFLOPS. Formosa 4 placed 234th among the Top 500 in October 2011, and 37th in Green 500. Formosa 4 uses heterogeneous environmental integration and new GPU architecture with energy-saving capabilities to provide a high quality cloud development environment that performs software testing, calculations and analysis applications. Formosa 3 provided cloud services to academia and research groups with render farm. The National Center for High-Performance Computing developed five sets of intermediary cloud software, including a private cloud search engine, an on-demand virtual cloud system, a cloud booting system, a data mining teaching system and a cloud log analysis system, all of which are available to be downloaded by the public. The National Center for High-Performance Computing has established the Alliance of Cloud Computing Technologies and Applications (ACCTA) to host conferences and educational training courses and provides the latest technology and consulting services.

3.2 Single Window

In order to cope with the requirement of international trade facilitation and security, as well as improve our international trade competitiveness, Chinese Taipei Customs adopted WCO SAFE framework and actively launched the Customs-Port-Trade (CPT) Single Window Project in 2009. Based on customs clearance automation, licensing operation automation, and port operation automation of current import/export cargo operations, the existing three main information systems, i.e. "Customs Clearance System" of the Ministry of Finance, "Maritime Port Information System" of the Ministry of Transportation and Communications, and "Facile Trade Net (FT-Net)" of the Ministry of Economic Affairs, will be integrated. Furthermore, by reengineering the Customs-Port-Trade operation process of import/export cargo and creating a central database and a cross-border data exchange method, we can establish an advanced CPT Single Window to achieve the goals of "submit once, service the whole course" and "seamless sharing of import/export cargo information". Positioned as an all-round import/export trade management information service platform, the CPT Single Window provides a single portal for stakeholders to deal with import and export operations, as well as the seamless operation platform of data sharing services for participating government agencies while also offering a crossborder service platform for conducting data exchanges. We are planning to develop



the Single Window in a 3-stage approach, such as "initial-term, mid-term, and longterm", with the strategy of "develop stage by stage, evolve step by step" to reach the ultimate goal of establishing a national Single Window. The CPT Single Window's initial phase will be completed and will start operation in 2013.



Figure 9. Vision and Strategy of the Developing Plan for the Cloud Computing Industry

Source: Directorate General of Customs, Ministry of Finance, July 2012

In order to meet the requirements of clearance for trade stakeholders and administration for government authorities, the CPT Single Window will offer versatile G2B, B2G, and G2G services in its initial stage, including: (1) compliance-checking, investigating and data exchanges between participating government agencies; (2) providing B2G message transmissions, e-payment services, and various query services based on Cloud Computing; (3) Conducting N2N cross-border data exchange as shown in the following figure. In the mid-term and long-term stages, based on the environment status, the CPT Single Window will incorporate B2B services step by step to meet the requirements of trade stakeholders for cargo supply chain operations, progressively strengthen private sectors' participation and introduce outsourcing operations in order to enhance the CPT Single Window's operational efficiency for private sectors' effect services.

3.3 e-Application 3.3.1 Intelligent Life

Currently, countries around the world are engaged in the development of intelligent



living applications and are providing electronic, informational and architectural technology services to meet the requirements of energy management, automatic control, system integration, security, home care and digital life. The promotion of intelligent green buildings focuses on utilizing advanced smart products and services to encourage industrial development, including architectural planning and design, construction and green building materials. The objective is to further elevate the performance of green buildings through smart products and services. The scope of intelligent green building related industries (Figure 10) is summarized below:



Figure 10. Scope of Industry Associated with Intelligent green Buildings

Source: Architecture and Building Research Institute, Ministry of the Interior, July 2012

1. Architecture: Architectural planning and design, construction and green building materials.

2. Energy management: Energy management systems, advanced automatic meter systems, sensor systems, smart meters, smart gas meters, sensors, sensing devices, system hosts, and control panels.

3. Security system: Security monitoring systems, internet camera, internet image servers, digital video recorders, visual conversation system, gate security system, intercom, recognition systems (finger vein, pupil, fingerprint, and face), sensor system, sensors, sensing device, gas detection device and gas shut- off device.

4. Energy conserving home appliances: Energy conserving home appliances (refrigerator, washing machine and air conditioner) or products.



5. Automatic control: Automatic control system, control module, control devices, system host and control panel.

6. Air conditioning: Variable refrigerant volume (VRV) air conditioning system, variable frequency air conditioning system, total heat exchanger, sensing system, sensors and sensing devices.

7. Indoor environment quality: Green building materials and smart sensing and monitoring equipment for CO2, CO, temperature and humidity.

8. Water conservation: Automatic water conservation system and water conservation sensing appliances.

9. Lighting energy conservation: Lighting control system, high efficiency lights, electronic ballast, energy-saving light bulbs, LED lighting, automatic lighter, automatic light adjuster and infrared controller.

3.3.2 Computing as a Service

3.3.2.1 Cloud Service

Chinese Taipei's cloud services platform has been constructed in line with the theory "Computing as a Service (CaaS)". Utilizing the virtualization technology can provide users with the virtual machine services of the IT systems and database. The cloud storage service provides "Elastic Block Storage (EBS)" in which users can flexibly rent large storage spaces. The online storage services of "Storage on Demand" will also be provided, with which users can use storage space through API. The application service introduced customer relationship management (CRM), cloud storage services for enterprise (Cloudbox) and other services to its customers.

Furthermore, the project "Platform as a Service (PaaS)" is currently under construction and is expected to provide full-featured and future-oriented services in local service libraries. The implementation of the overall information security system, including system management, development, maintenance and operation, will comply with the international standards of the information security management system ISO27001.

Chinese Taipei has launched "four cloud centers and one cloud platform," including the "cloud computing research and development center", "cloud operations center/data center", "cloud product testing and certification center", "cloud services exhibition center", and "cloud service creation platform" to offer its residents comprehensive cloud computing services. Developers will be able to use these services to create, test and expand their innovative applications, which will encourage the development of domestic cloud applications to create prosperity in this industry.



3.3.2.2 Broadband Network Implementation

The Ministry of Transportation and Communications is responsible for preparing high-speed broadband networks under the Digital Convergence Development Program (2010-2015) and has pursued the relevant tasks in cooperation with the National Communications Commission (NCC), the Ministry of Economic Affairs, and the Ministry of the Interior. To respond to the rapid technological development and increasing needs for internet usage, as well as to offer quality internet services with affordable high-speed rates, the ICT infrastructure goal of 100Mbps fixed-line broadband access in households will be achieved 2 years ahead of schedule, to be completed in 2013, with the penetration rate increasing from 80% to 100%.

3.3.3 e-Health

The Department of Health of Chinese Taipei has developed the "Hospital Implement Electronic Medical Records and Interoperability Program" in order to encourage domestic hospitals to work together with the Department of Health to encourage the implementation of electronic medical records and campus-wide interoperability, as well as to improve medical operation informatization through information technology applications. These actions will break through the constraints of resources, space and time in order to speed up patient care services, upgrade medical service quality, and reduce the waste of medical resources that use medical information integration. The program has been scheduled from 2010 to 2012, and there are now 150 hospitals conforming to the Department of Health's electronic medical record standards and that have passed the examination. The Department of Health also established the E.M.R. Exchange Center (EEC), which includes 142 hospitals providing medical images and reports, blood tests, hospital discharge records and out-patient medication records. Furthermore, the Department of Health will continue to implement the Health Cloud Plan - Medical Cloud. This cloud plan responds to the cloud trend and reduces the cost and technology threshold of information; this can solve the problem that small hospitals experience in establishing their own gateway of electronic medical records.



Member Progress Report

Islamic Republic of Iran

30th AFACT Plenary Tehran Iran November 19-22, 2012



Iran Centre for eCommerce Development



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

3.1 National Single Window Project

Single window has been proven to be one of the best tools for achieving trade facilitation. The economic benefits of implementing single window have encouraged many countries to implement it successfully to consider accomplishing it in a near future.

This important issue has been well understood by high level government officials in Iran and they have started to take part in the process of implementing a national Single Window.

Iran Centre for eCommerce Development (ICeCD) is the government body that among other responsibilities is also in charge of Single Window development. This centre has done the following activities to implement the project:

3.1.1 Establishment of National Committee for electronic Facilitation of Trade

To maintain all activities related to single window project in a coherent and coordinated manner, a steering Committee composed of the main stakeholders of the foreign trade entitled as "national committee for electronic facilitation of trade" (NCeFT) has been established.

The philosophy behind establishment of this Steering committee is actually what has been recommended by UN/CEFACT recommendation number four (Trade facilitation Body).

The structure of NCeFT has been depicted below. The steering committee organizations are:

- Ministry of industry, mines and trade (Chairman)
- Department of trade facilitation and application development of ICeCD (Secretary)
- Trade Promotion Organization of Iran
- Customs Organization
- Central Insurance of the Islamic Republic of Iran
- Central Bank of the Islamic Republic of Iran
- Maritimes and Ports Organization
- Iran Chamber of Commerce, industry and mines

Four technical subcommittees (Legal, Technical, Business Processes and Data Harmonization) are under the supervision of the steering committee. Members of the mentioned subcommittees are representatives of the stakeholder organizations in the single window project. ICeCD is the permanent secretariat of NCeFT.



Duties & responsibilities of NCEFT:

- Re-engineering of sectorial trade processes to establish the required coordination for simplification of trade processes.
- Standardization & harmonization of trade documents & providing solutions for electronic exchange of them.
- Review, enact and proclaim rules and practices in order to establish a national library of shared data in business processes.
- Coordinating the relevant organizations in the area of electronic facilitation for trade

3.1.2 Single window system of handicraft Carpet export as a pilot project

Given the extent nature of trade single window project and in order to enhance its manageability, implementation of the project has predicted to be phase to phase and in the form of pilot project. After different studies and considering various parameters, automating the Process of carpet exports was selected as the pilot project.

Pilot Project objectives:

1. Operationalize some part of National Single window

2. Identifying possible challenges and obstacles of National Single Window implementation

3. Facilitate the carpet export procedures

4. Initialize the activity of National Repository of electronic trade documents and national library of commercial messages

Pilot Project Activities:

- Identification of "As is" process of exporting carpet & preparation of Business domain view & business requirement specification of the current status & Proposal for improvement of the "As is" process
- identification & categorization of the main trade forms used in exporting carpet based on the information given from the Business Process subcommittee.
- Identification & mapping of the data elements of the following forms with WCO data model:
 - Certificate of origin
 - Customs declaration
 - Commercial factor
 - Cargo insurance

-Technical subcommittee:



This committee has designed a special questionnaire for assessing the level of electronic readiness of organizations involved in exporting carpet. Based on that questionnaire, first level of electronic readiness of the mentioned organizations have been prepared.

3.2 Iran Public e-Procurement System

3.2.1 System's mission and objectives:

IRAN public e- Procurement solution that is briefly called "SETAD" in the native language is a web based solution for doing all transactions (purchases and auctions) by public agencies. This system enables the buyer executive agencies to do all stages of the purchase process from request establishment to payment in a decentralized and integrated system all auctioning executive agencies, also, will be able to implement all stages of the state auctions from registration to money transactions via internet solution.

All public sectors based on (Law for management of the country wide services) are the buyers of this system. SETAD suppliers are firms and individuals who completed the registration & approval process. Also it's necessary for suppliers to determine the specifications & prices of their products.

3.2.2 Benefits of the system implementation

- ✓ Following the same & common purchasing policies and processes by the public sectors.
- Ability to provide managerial and supervisory reports for the regulatory and government bodies;
- ✓ Full transparency in purchasing process;
- ✓ Improve efficiency in purchasing process
- ✓ Preparation for market control & price stability
- ✓ Preventing of monopolization by vendors.

3.2.3 Legal background & Execution of digital signatures

In order to consider SETAD as a mandatory system for government agencies, the Cabinet ministers have approved the necessary laws & regulations.

Digital signature completely fulfills the system requirements and allows the suppliers and buyers to exchange information completely safe in the platform based on the "Electronic Commerce Act"

3.2.4 IRAN Code



Due to the practical use of the country's infrastructure capability & considering the national classification system for the goods and services (Iran Code), only the products with "Iran Code" are presented in SETAD and all suppliers should apply for "Iran Code" before becoming a member of SETAD.

3.2.5 Implementation Planning

- SETAD's main phases of implementation in Iran are:
 - ✓ Phase 1: Small & Medium purchases of the goods
 - ✓ Phase 2: Auctions
 - ✓ Phase 3: Major purchases (tenders)
 - ✓ Phase 4: Purchasing of Services
 - ✓ Phase 5 foreign purchases

3.3 eNAMAD

eNAMAD is dedicated to providing the Internet community with the best resources available today in verifying the trustworthiness and validity of websites.

When online customers feel secure, they are more likely to complete a purchase or personalize their profile and return to the web site, Webmasters and website owners are able to gain the trust of their visitors through third-party validation from Iran Center for e-Commerce Development (ICeCD).

System's mission and objectives:

- To authenticate the e-Business. •
- To Identify the e-shops
- To inform e-Shops about e-Commerce regulations. •
- To inform e-Shops customers about how to deal and what are their legal rights.
- To rank e-Shops with e-Trust sign.
- Monitoring and tracking the e-shops in order To organize e-Shops.
- To protect consumer rights in Cyberspace
- Presenting privacy policies, notices, and choices with more Transparency in ways that are more easily accessible and understood by consumers



- Providing consumers with Choices options and control over the use of their personal information
- Helping companies and organizations remain Accountable to the privacy obligations they make as well as to consumer choices

Validation of e-Trust sign

The customer of the e-Shops with an e-Trust sign can click on the e-Trust logo and after watching the e-Trust permission web-page to be ensured of original e-Trust sign.

Also the lists of the e-Shops that have e-NAMAD signs are accessible through the related web site.

Benefits for Consumers

When the e-Namad logo appears on a website, consumers can rest assured that the site has taken the necessary steps to protect their private and personal information.

Launching the e-Shop National Union

The ministry of industry, mine and trade's policy in licensing the e-Shops is that "the e-Shops National Union, with all authorities mentioned in the union regime's regulation, as the leverage executive of the ministry of industry, mine and trade is in charge of licensing and monitoring the e-Shops and web-sites."

Therefore, the agenda included the amending of the bylaws of the organization and monitoring the e-Shops' activities.

Project outcomes

- 1. To establish the trust
- 2. To extend B-to-C market
- 3. To reduce the commuting within the city and to help to preserve the environment
- 4. Easy and quick access of information
- 5. To reduce costs of deal
- 6. To increase transparency
- 7. To create new opportunity for medium and small agencies

> Future plan

The future plan of the project has been depicted below



3.4 Security infrastructure

In this section of the report the efforts of the government of the Islamic Republic of Iran to implement security infrastructure have been explained. The security infrastructure has been provided through Governmental Root Certification Authority (GRCA) & General intermediate Certification Authority (GICA).

3.4.1 Governmental Root Certification Authority (GRCA)

GRCA¹ is the trusted point of public key infrastructure (PKI) of IRAN for monitoring of digital certificates issuance and management with the purpose of security development in the information exchange area, authentication in cyberspace at national and international levels and ultimately confidence in the use of electronic services.

GRCA is responsible for all aspects of issuance and management of Intermediate CAs certificate, including monitoring registration processes, authentication, issuing and revocation of certificates and re-key. Centers that got permission and also received a certificate from GRCA are said to be Intermediate Certificate Authorities. These centers are qualified for issuance and revocation of subscribers' digital certificate.



3.4.1.1 Goals

The goals of GRCA are described below:

- 1 The development of public key infrastructure in the country;
- 2- Integration of country public key infrastructure to facilitate interoperation;
- 3 Reliability of the business and electronic commerce in the country;
- 4- Accreditation, auditing and development of Intermediate CAs;

5 - Management and monitoring the integrity of certificate authorities in the country;

6- Evaluation and accreditation of Public Key Infrastructure related products;

7-Establishing of interoperability with other PKI Domains in other Countries for cross border transactions

3.4.1.2 The achievements of GRCA

1 - Developing and implementing the requirements and standards for integration and consolidation of the public key infrastructure;

2 - Applying the principles and standards aimed at ensuring the proper electronic exchanges;

3 - Correct understanding of applications and digital certificate status for the development of public key infrastructure application platform;

4 - Coordinated, integrated management and monitoring of CAs implementation and activities in the country;

5- Activation of some governmental and private intermediate CAs;

6- Evaluation of PKI related software and hardware security products and improving their level of security and performance.

3.4.2 General Intermediate Certification Authority

General Intermediate Certification Authority (GICA), is a unique center to provide certification authority for various usages. Certification Authority of Ministry of Industry, Mine and Trade²'s is working as GICA.

Certification Authority of Ministry of Commerce began its operation in 2008 for 5 years. It is the first intermediate CA of IRAN PKI infrastructure which has started from 2008/03/11 as Ministry of Commerce issuing CA. It has changed to General Intermediate Certification Authority by Digital Certificate Policy Council of IRAN Approved from 2010/12/20.

² Notation : IRAN's Ministry of Commerce and Ministry of Industries and Mines merged



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

4.1 IranCode (Iranian National Products & Services Codification System)

IranCode is a successful master data management solution built upon expertise which spans more than two decades. As a web-based product master data management system, IranCode is designed to register, standardize and share master data of existing products and suppliers within the boundaries of Iran. The nationwide IranCode operations network makes product classification and codification services accessible to suppliers throughout the country saving time, energy and money. Through IranCode services suppliers encode their profile data using such data standards as national product classification structure, approved names, standard property-value pairs leading to quality product catalogs. In particular, each trade item no matter it is "Made in Iran" or "Just in from overseas" is assigned a unique sixteen digit code. Various companies both public and private and governmental agencies are then able to gain operational efficiency in their business processes due to the electronic catalogs that improve supply chain wide collaborations via enhanced process visibility.

So far, more than 56,000 suppliers have been registered in IranCode to publish about 1,600,000 product codes in the portal so as to enjoy the wide range of business opportunities to boost profitability and trade regulations compliance. There are currently two possible ways to access the electronic product catalogs. First, IranCode web-portal which is available online free of charge, commonly referred to for ordinary requests without requiring costly and complicated IT expertise. Second, technically more demanding IranCode web-service which is linked with companies internal software solutions such as widely accepted and increasingly growing ERP's. IranCode currently feeds with a rising trend major private and public electronic systems such as electronic public procurement system, chain stores, online e-commerce websites and is expected to feed more industrial manufacturing and construction firms in future.

IMS (Interactions Management System)

Interactions Management System resulted in a tripartite agreement between Institute of Standard and Industrial Research of Iran (ISIRI), Iranian National Products and Services Codification Center (IranCode) and Trade Promotion Organization of Iran developed to

manage and control the process of imports to Iran electronically. The main purpose of the system is enhancing and improving the quality of the imported goods to Iran.

According to this system, the information of the entry goods are registered at the point of goods order placement based on IranCode data standards and a sample of the products, already obtained certificates or certificates of origin are provided to the



authorized inspection companies before the arrival of the goods. After technical tests and confirmation of compliance with the existing standards, entry permissions of goods are informed to concerned organization and the clearance is done.

The enriched catalogs of products containing complete technical information can be used by other systems and also help ISIRI to develop the technical standards and enhance the quality of goods.

ECO Cataloging System

ECO Cataloging System (ECS) is a proposed solution by IranCode to facilitate tighter business integration within the ECO region through enabling the companies to connect with any trading partner in an easy and affordable way. When a business is able to maintain, validate and publish its profile in a central data repository, it can cut costs, enhance supplier collaboration and establish differentiation.

ECO Cataloging System helps firms generate and publish their master data profile applying a common regional business standard. This common language eliminates the need for the traditional point to point integration and thus makes cost effective and tight integration feasible. Put simply, we all talk and hear the same language to introduce ourselves and products to the rest. This access to quality and consistent master data that supports business collaboration leads to more customers and sales opportunities and makes the end to end procurement process possible in a less costly and more reliable manner.

So, through ECO Cataloging System suppliers publish their electronic standard catalogs and customers access the accurate, up-to-date and reliable data of suppliers and their products. Naturally, this novel mode of communication between suppliers and buyers of any size helps trading partners do business together smoother, quicker and less costly ECO wide.

ECO Cataloging System enhances interoperability by allowing companies including suppliers and buyers to enjoy the smooth exchange of product data. This purpose will be achieved by the development of a central master data management repository to promote the current ECO web portal which offers product cataloging services throughout the ECO region to local companies ranging from small and midsize firms to giant enterprises.

ECS was approved as a part of enhancement program of ECO Web Portal for ECO member states and also as an information infrastructure of ECO Regional Single Window by ECO Secretariat at the 1st ECO Expert Group Meeting (EGM) on electronic trade, May 2012, in Kish Island.



4.2 System for Electronic Payment Messaging (SEPAM)

SEPAM is a national messaging solution for banking system based on the financial messaging standards. The project was launched in 2010 and successfully passed the pilot phase by March 2012.

SEPAM basically serves as a service Bus in an integrated infrastructure. The infrastructure is a messaging framework that enables easy & quick development & customization of messaging endpoints, allowing different services and applications to interact with one another across the network in a centralized architecture via standardized protocols.

Advantages:

- A messaging backbone with high reliability, availability & scalability for all standard messages
- End to end transaction management
- Matching & routing communications between services, convention between different transport protocols, transforming between different data formats including Binary, XML, CSV, financial industry standards &custom formats and distributing business events
- Integration of different applications through standard Protocols

Several banks are communicating via ISO 20022 message formats through SEPAM for their internal transactions which leads to a remarkable cost reduction. According to the schedules, several systems such as letter of credits, customers' credit exposures database, identification Database of banking customers, Bad cheques Database, loan and facilities and customers integrated information system will be integrated in SEPAM in near future.



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Japan Association for Simplification of International Trade Procedures





SECTION I - GENERAL CONDITION UPDATE

1.1 Overview

Exporting from Japan is decreasing (Around 20% less from that of 2009) while importing is keeping a steady increase in 2011.

The aftermath of the Great East Japan Earthquake in March 2011 and also the flood disaster in Thailand were the major impact.

The high exchange rate of yen since 2007 is also the key reason.

'Not many Japanese companies intend to use the same suppliers even after those suppliers recovered from the disaster. Many companies recognized the necessity of reviewing the current suppliers and to consider the risk management by diversification of suppliers (Enhancing the global supply chain).'

'Thailand is an important place both for producing goods and consuming goods. So they intend to use those suppliers in Thailand continuously, expecting that Thailand Government may carry out the improvement against flood. ' (White paper 2012 by Ministry of Economy, Trade and Industry)

'Regarding the information and communication in the aftermath of the Great East Earthquake, overcome of the following issues are important.

- Developing a highly disaster-resistant ICT infrastructure The majority of the diverse efforts implemented using ICT require a working ICT Infrastructure and/or stable supply of electricity.
- Two-way digital/analog information conversion
 A great deal of analog information (on paper) regarding the safety and whereabouts of victims was converted to digital form and shared.

However, there was insufficient conversion of digital information to analog form for the benefit of those unable to use the internet.

- 3. Chain e-mails and fraudulent emails, etc pertaining to the disaster Misinformation regarding the Earthquake was spread vial chain e-mails, miniblogs, etc.
- 4. Widespread publicizing of information and communications initiatives A great number of new information and communications initiatives were launched, but it cannot be said that those were widely publicized and implemented effectively. '

Source: (White paper 2011 by Ministry of Internal Affairs and Communications)



SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 UN/CEFACT Japan Committee (JEC)

2.1.1 Overview

The Japan EDIFACT Committee, the predecessor of UN/CEFACT Japan Committee was founded in 1990. Its mission was to enlighten and promote the of UN/EDIFACT standard for the better business practices in Japan. The old name of the committee was renamed to the above in 2007 to propagate UN/CEAFACT's mission in Japan more clearly.

JEC consists of members from various sectors (customs, trading, financing, manufacturing, distribution, construction, transportation etc.) supported by the government (Ministry of Economy, Trade and Industry, Ministry of Finance, and Ministry of Iand, Infrastructure, Transport and Tourism)

All inquiries forwarded by UN/EDIFACT to Japan HOD are tabled in this committee and Japan HOD feedback the deliberations to UN/CEFACT.



2.1.2 Japan Committee for UN/CEFACT Standards (JUS)

JUS is a working group under the umbrella of JEC. Members are composed of experts in various sectors. (Business procedure and ITC)

UN/CEFACT inquiries are discussed in detail in this committee and feedback the result of discussion to JEC. Evaluation of Data Maintenance Request (DMR) by parties in Japan is also done by JUS.

Translation of UN/ECE recommendations and other relevant documents into Japanese is another important role.

Translated version is published for public use in Japan.



Rec .12 and 35 are being translated now.

2.1.3 Supply Chain Information Platform Study Group

The project of the information platform for business infrastructure in Japan has been conducted by JEDIC (Japan EDI promotion Committee) supported by METI (Ministry of Economy, Trade and Industry) since 2009. The objective of the project was to promote the cross industry EDI specification in order to establish the ideal information platform sharing across various industry groups. Through the 3 years study with several industry groups, JEDIC has published the guideline for Information platform for business infrastructure (Version 1.1) based on UN/CEFACT standards.

In 2011, Japan had a disastrous Earthquake and Tsunami. After the tragedy, we have found the broken network in manufacturing supply chain in Japan. In addition to the tragedy in Japan, Japanese manufacturers met another crash of their factories and their partners by big flood near Bangkok of Thailand. For managing supply chain, especially for manufacturing, we recognized that we need the global wised information platform supporting their supply chain, which is interoperable among related countries.

Through those experiences we have decided to establish the new group named SIPS (Supply Chain Platform Study Group) under the UN/CEFACT Japan Committee to reinvention the system for developing and promoting eBusiness focused on the global supply chain especially in Asian region.

SIPS inherits the outcome of JEDIC and amplifies them for adapting the global supply chain in Asian region.

We have 4 taskforces under SIPS for achieving the goal as follows.

- (1) International Collaboration Taskforce
 - We will continue to join developing and maintaining the international EDI standards conducted by UN/CEFRACT.
 - Through the activities in AFACT, APTFF and UNNExT, we will take the certain roll for realizing Global Supply Chain in Asian Region.
- (2) Global and Cross Industry EDI Taskforce
 - We will amplify the Cross Industry EDI specification based on UN/CEFACT standards developed by JEDIC, and implement it in various industries in Japan.
 - We will adapt the Cross Industry EDI specification for implementing it in several regions in Asia led by Japanese companies which are doing business in there.
- (3) Messaging Platform Taskforce
 - For reliable message exchange beyond borders, we will build consensus using the certain messaging service technologies and the interoperable



infrastructure, such as PKI.

(4) Finance and Commerce Information Linkage Taskforce

- We will survey the business chance using the new standard of financial network (ISO20022) for Finance and Commerce Information Linkage, such as Supply Chain Finance.

2.1.4 AFACT Travel Tourism and Leisure Japan Working Group

In FY 2012, AFACT Travel, Tourism and Leisure Japan Working Group (TT&L Japan WG), as its second year activity, planned to have 8 meetings to prepare for the two face to face meetings of AFACT TT&L WG scheduled this year. Every meeting up to now has been held as planned. One of the main themes of TT&L Japan WG this year is to prepare ourselves for the coming SLH (Small scaled Lodging House) trial project among AFCT member countries utilizing the standards for the SLH information processes made up by UN/CEFACT Forum recently. This trial project has been agreed upon by all the participants to proceed at the AFACT TT&L WG held in Kish Island in May 2012. The other is to contemplate the destination travel information process. We started a discussion with Korean members on this in TT&L Japan WG. After a good discussion among AFACT TT&L WG, we, as AFACT TT&L WG, will proceed on the step to propose its standardization activity in the UN/CEFACT Forum.

2.2 The Distribution Systems Research Institute (DSRI)

DSRI(GS1Japan), a member organization of GS1, has been facilitating standardization of EDI and communication protocols since 1980's.

From 2003, DSRI had been involved in the development of XML based EDI standard for Japanese Retail Industry along with 2 major retailers associations and other industry players.

In April 2007, a new EDI standard called Ryutsu Business Message Standards (Ryutsu BMS) was published. Ryutsu BMS defines business processes and messages between retailers and wholesalers/manufacturers.

For the promotion and maintenance of Ryutsu BMS, DSRI formed Supply Chain Standard Management & Promotion Council in April 2009 which consists of full members (industry associations) and supporting members (solution providers). As of July 2012, there are 49 full members and 181 supporting members. Owing to the activities of the Council, Ryutsu BMS is now gaining the status of a major EDI standard for Japanese retail industry.

Following documents that support implementation of Ryutsu BMS are available at the Council website, <u>http://www.dsri.jp/ryutsu-bms/</u> (Japanese only).

• Ryutsu BMS implementation guideline

- Ryutsu BMS operational guideline
- Ryutsu BMS XML Schema guideline
- Mapping Sheet template and sample
- Communication protocol users' guideline
- Certification Authority policy

2.3 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.



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

3.1 The Single Window System in Japan (NACCS)

3.1.1 Nippon Automated Cargo and Port Consolidated System (NACCS)

In October 2008, the Government of Japan had carried out a reform of key operator of Japanese Single Window, 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 Consolidated System Inc. Its abbreviation remains the same as it was, i.e. NACCS.

iii) This reform was done with a view of promoting an efficient import/export related operation under the new generation Single Window of Japan.

3.2.2 New Generation Single Window

In the course of Single Window development, trade related administrative systems have been integrated into NACCS in a phased manner.

In February 2010, a number of import, export, emigration and immigration procedures other than customs were integrated into NACCS (see Table 1).

With the planned integration of quarantine systems in October 2013, NACCS becomes the single consolidated system which provides all the trade related administrative functions.

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	


Roadmap of the Integration of NACCS and Related Administrative Systems

3.2 Implementation of the Advance Filing Rules on Maritime Container Cargo Information (Japan Customs)

Japan Customs announced the amendment of the Customs Tariff Law with regard to the captioned issue which will be implemented in March 2014.

The new rule require a vessel operator or a NVOCC(Non Vessel Operating Common Carrier) to electronically submit to the Customs the Information on maritime container cargoes to be loaded on a vessel intended to call Japan port no later than 24 hours before departure of the loading port while currently the information is required to be submitted no later than 24 hours before arrival of Japan port.

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3.3 Financial Sector (BOJ-NET & Zengin Net)

Since December 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.

More recently, sixth-generation Zengin System, which has been in operation since November 14, 2011 accepts XML/ISO20022 format as an option.

As for the Bank of Japan Financial Network System (BOJ-Net), the BOJ will adopt ISO20022 message formats for some transactions under the new BOJ-NET, which will start operating for some areas around the first quarter of 2014 and the remaining areas between the autumn of 2015 and the beginning of 2016.

MT103 Remit, which is a 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 2011, funds transfer services are provided through the Internet by 89.4 percent of the 416 respondent banks. In addition, services using mobile terminals (e.g., mobile phones) are provided by 85.1 percent of the respondents.





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National IT Industry Promotion Agency





SECTION I – General Conditions Update

Sustained efforts have been put into promoting the use of electronic documents and the use of IT in business processes in Korea. NIPA (the National IT Industry Promotion Agency) recently released KEC (the Korea E-Document Committee) core component library v0.6; and the revision of the e-document development guideline V3.0 is also in the works. The recent development and application of electronic documents in the power industry, such as inventory status report, order change response forms, and delivery receipts, have been performed in compliance with the domestic XML e-document development guideline V3.0 and the CCTS (Core Component Technical Specification) V2 .01. In addition, the popularity of XML e-documents developed in compliance with the CCTS and the e-document development guide is growing by the day in key industrial sectors, including electronic trading.

The Ministry of Public Administration and Security (MOPAS) has completed the establishment of an ebXML-based government e-document communication support center by 2009, with the aim of spreading the use of the center across educational institutions and local administrative agencies in all cities and towns, while diversifying its services through the development of various relay and connectivity systems. In addition, with the number of downloads exceeding more than 12,000 thanks to the development and communication of the standard e-government framework, the number of SMEs and large enterprises adopting the software framework has been growing sharply. Recently, MOPAS has been spearheading the diffusion of the software framework by streamlining the framework and adding some mobility functions.

The e-tax invoice scheme, which came into force in 2009, has reached its maturity. Businesses wanting to send and receive e-tax invoices must be authorized through NIPA's e-tax invoice test bed, and this type of certification process has enabled the stable operation of the e-tax invoice scheme. The issuance of e-tax invoices, which became mandatory for all corporations in 2011, has spurred the growth of related markets. As a result, a slew of ASPs have entered the e-tax invoice market, resulting in fierce competition between ASPs wanting to take the biggest share of the market. Businesses that entered the market in its infancy are carrying out promotions focused on add-on services, such as email, online storage, and related tax consulting services, in addition to e-tax invoice issuance. On the other hand, latecomers to the market are seeking to gain an advantage by competing on cost, by reducing issuance charges, offering free services, etc.

As described above, the government has taken the lead in the standardization of IT in Korea. In this regard, businesses and individuals in the private sector can greatly benefit from the government's leadership in the standardization and development of technologies if the government accurately understands international IT trends and the impacts and ripple effects of IT.



SECTION II – EDIFACT/ebXML/XML Based STANDARDS DEVELOPMENT

2.1 #Mail

NIPA has provided #mail services based on certified e-addresses since October 2011 in order to implement and operate a legally binding e-document communication infrastructure. #mail is a kind of mail service wherein the transmission, receipt, and viewing of messages between the sender and the recipient are checked, and the results are saved in the message communication server. This means that transmission, receipt, viewing, checking, denial prevention, and content certification through certified e-addresses are legally guaranteed. Documents and messages sent and received via #mail have the same full legal force as documents delivered by registered mail. Legally important documents, such as public notices and contracts, can safely be delivered via #mail.

Any individual or business who wants to use a certified e-address must register a desired address in the NIPA in advance via a certified e-document intermediary. A certified e-address is required for anyone who wants to use #mail.

A certified e-document intermediary is an e-document communication service provider who sends and receives the user's e-documents by proxy (including all kinds of certificates, bills, public notices, etc.) via # mail, and businesses or businesses can use the e-document communication services of such e-document intermediaries. The NIPA allows one to secure the legal validity of sent, received, and viewed e-documents by storing and issuing communication information of the documents.

A certified e-address uses a standardized address system composed of a combination of # (sharp), Korean characters, English letters, and numbers, in order for the user to easily remember and use the address.

Account + # + Registered name. Unique value

Work type, department, function unit, name, and more can be used as an account here, and registered name can be the real name or alias of a business or individual. The send/receive process for #mail is illustrated in Figure 1.





Figure 1. Send/receive process of #mail

2.2 Certified e-document center

The revisions made to the Basic Act for Electronic Transactions in May 2005 gave rise to the certified e-document center system in Korea, and the revised act came into force in line with the revisions to the sub-ordinances (enforcement ordinances and regulations) of the Basic Act for Electronic Transactions in November of the same year. The rationale for the introduction of the certified e-document center to the Basic Act for Electronic Transactions to reduce the burden of storing e-documents produced in the process of digitizing paper documents; to store e-documents in a third-party institution; to provide an institution which can verify the authenticity and integrity of e-documents and their sent/received time. The newly introduced certified e-document center scheme has been highly conducive to transforming the work processes of many businesses into "e-business" processes, and the emergence of new business models using the certified e-document center has added to the growing popularity of e-documents.

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NIPA has put a lot of effort into promoting the certified e-document center and establishing related support systems. The in-house e-document center and the certified e-address homepage (www.npost.kr) were launched, and a total of nine certified e-document center service providers have been designated thus far, in parallel with the implementation of a number of projects, such as the definition of certification targets and ranges for digitization facilities or equipment, implementation of certifications, etc. In addition, the certified e-document center technology specifications submitted to the ISO were accepted as international standards (ISO/TR 17068 Trusted Third Party Repository for digital records). The service and system configurations of the certified e-document center are illustrated in Figure 2.





* TTPR: Trusted Third Party Repository for Digital Records

** Personnel: TTPR Management Personnel and Organization

Figure2. Configuration Diagram of Service and System of Certified e-Document Center

2.3 Government e-document distribution support center

MOPAS is supporting an ebXML-based relay service that can electronically send and receive official documents among administrative and public agencies, as well as a connectivity service linking e-document communication systems to administrative information work systems, with the aim of digitizing the entire process of document processing. The latest developments in the implementation process of the government e-document communication service are as follows:

1998.10~ 2002.10	Vitalization of electronic approval and e-document communication and gradual expansion of e-document communication across administrative agencies
2002.8~ 2003.12	Establishment of government e-document communication support center

2004.6~ 2004.12	ISP implementation for advancing the government e-document communication system
2005.6~ 2005.12	Implementation of open government e-document communication support center compliant with international standards, and application of support center to public institutions for testing purposes
2006.6~ 2006.12	Implementation of e-document message boxes and conversion of the communication system into a system compliant with international standards (ebXML)

The targets of the government e-document communication service are central administrative agencies (including agencies falling under the remit of President or prime minister) and their affiliates, agencies belonging to municipal governments, and defense agencies, constitutional institutions, such as the legislature, the judiciary, the Constitutional Court, the National Election Commission, etc. Currently, the e-document communication service is being used by 1,280 organizations, including central administrative agencies, provincial and regional offices, and educational institutions, in conjunction with 69 administrative information systems, such as the procurement integration system (G2B), the digital budgeting and accounting system, the integrated administrative information system for provincial and regional offices, the administrative information disclosure system, etc.



Figure 3. Conceptual Diagram of MOPAS's ebXML based e-Document Communication Service



The government e-document communication service is based on the relay and connectivity system designed for receiving the e-documents sent from each agency and forwarding the documents to their final destinations, or communicating the documents. The relay system provides an electronic communication service designed for sending and receiving documents among administrative agencies and public institutions for the purpose of digitizing the entire document processing process, and is targeted at administrative agencies, public institutions, and educational institutions (preliminary schools, middle and high schools, colleges and universities, etc.). The connectivity system, which is being used by administrative agencies, provides a service that connects the administrative service information shared between an e-document system (or the On-Nara system) and an administrative information system.

To use the relay system, an administrative standard code and an e-document system (server) certificate must be issued to each agency in advance, with each e-document system loaded with the 'relay module' provided by the government e-document communication support center. In addition, the traces of relayed documents and document relay status must be checkable using the center management service.

The use of the connectivity system must be preceded by the installation of the 'connectivity module,' provided by the government e-document communication support center, in each e-document system and administrative information system. The connectivity methods can be classified into Link to electronic approval and Link to e-documents according to their purpose. Link to electronic approval is that the administrative information of an administrative information system is linked to the electronic approval functions of an e-document system, and Link to e-documents is that the information produced from an e-document system, such as document, approval, and document log information, is shared with an administrative information system. The key functions of the connectivity and relay modules are as follows.

	Support e-document communication among agencies which use the e-government integrated network and other external networks
Key functions of the	The recipient information of a document sent from the recipient is verified at the government e-document communication support center, and then sent to the recipient agency.
connectivity and relay modules	Multi-address processing for multiple recipients and Authentication and encryption of digital signatures attached to sent/received documents
	Automatic retransmission and overlapped reception prevention in the event of a transmission failure, and Log document information, information on sent or received documents, error histories, etc.



The key functions of the center management system are as follows.

Key functions of the center	Track the communication status of a sent or received document in real time and check for the presence of trouble in the event of a document communication failure Provide statistical data on the communication of linked or relayed				
management system	document cycle Provide statistical data on erroneous documents by trouble type and a 'help desk' function for posting notices, running the				
	download board, and responding to inquiries				

The e-document system is an e-document communication service that uses document message boxes installed at the government e-document communication support center, in order to electronically distribute documents among document communication service recipients if there is no e-document system, or if existing edocument system standards are not compliant with the e-document communication standards. The key functions of the e-document system are as follows.

	Create and manage document titles for sending documents					
	Manage inboxes, outboxes, and received message boxes					
Key functions of	Provide a relay function between e-document message boxes and the e-document communication system					
e-document communication	Process documents sent from relay modules to e-document message boxes					
system	Manage user information, information on the agency to which the user belongs, or information on the department that processed the user information					
	Manage agencies using e-document message boxes or departments or users belonging to the agencies					

The Delivery Verification System is a system that provides accurate and objective judgment criteria related to communication records by issuing or verifying delivery certificates based on the sent/received histories of relayed documents being communicated inside the government e-document communication support center, and is being used by a host of administrative agencies, public institutions, and educational institutions (except for agencies using the e-document system). Key functions of the system include delivery certificate issuance, delivery certificate verification, and the like.



2.4 e-Procurement (G2B)

The government selected "the integrated state e-procurement project" as one of the eleven objectives of the e-government, with the goal of improving national competitiveness by virtue of promoting "e-business" in the private sector and increasing transparency and efficiency in procurement administration by integrating conventional public procurement processes into an IT-based e-procurement system. Consequently, an e-procurement system was developed and launched in October 2002, under the name of "Nara Jangteo" which means a traditional marketplace.

Nara Jangteo is an online marketplace wherein all types of public procurement processes between all public institutions and private sector businesses take place, and functions as a unified public procurement gateway. Bidding information that could previously only be found by trawling through newspapers or official notifications is now available on the Nara Jangteo, and once registered, anyone can bid for all public contracts up for grabs in Korea. In addition, all procurement procedures, such as bidding announcements, bidding, contracts, delivery inspection, and payment, are processed in Nara Jangteo in real time, with all related information released online.



Figure 4. Conceptual diagram of Nara Jangteo System

The Nara Jangteo System supports a standard connectivity service aimed at providing effective and smooth connectivity services, while preventing overlapped development among institutions that need to be integrated with the system for G2B services. The standard connectivity service is a Java-based enterprise web service implementation technology for document communication based on digital signature



and document security technologies using public key infrastructure (PKI), ebXML edocument standards, and SOAP. Currently, a one-step public procurement service is being provided by sharing necessary information in conjunction with the national information systems of some 90 private sector businesses and public institutions.

The standard connectivity service provided by the Nara Jangteo System is divided into a number of component services, 131 in total, such as common, goods, services, facilities, miscellaneous, and system, by work type defined in the G2B standard connectivity classification. In addition, six extra services are provided to manage connectivity, and to send and receive documents in the national information systems of private sector businesses and public institutions.

The types of services provided by the standard connectivity service of the Nara Jangteo are as follows: the Utility Service to guarantee the inter-operability of content; the Enabler Service to guarantee inter-operability between services from the technical point of view; and the National Information System Service for private sector businesses and public institutions.

The service infrastructure of the Nara Jangteo System consists of a standard connectivity registration repository and a connectivity management system. Standard connectivity services of the Nara Jangteo are registered in the registration repository by G2B standard connectivity type, allowing one to view available services, objects, and classification systems by classification type. The connectivity management system provides a wealth of information spanning request management, service status management, troubleshooting, statistics, and other types of additional information. The Nara Jangteo System provides some of the service registry and resource management functions, and the service interaction functions.

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Figure 5. Registration repository in Nara Jangteo



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

3.1 e-Government

MOPAS completed the development of the e-government development framework in 2010. And the framework was distributed in the private sector. The development framework enables effective application development by providing the preestablished functions and architecture needed for developing information systems. The "e-government standard framework" aims to standardize application software and to enhance the quality and reusability of software by establishing development framework standards applicable to public projects, with the goal of enabling fair competition under the same development conditions provided to small and large enterprises, while achieving "an improvement in the quality of e-government service" and "an increase in the efficiency of investment in informatization." (Refer to Figure 6)



Figure 6. Conceptual Diagram of e-Government Standard Framework

First, the e-government standard development framework is marked by its compliance with open standards. The use of open source technology has eliminated the risk of becoming dependent upon specific vendors. Second, the framework can be linked to commercial solutions. Interoperability is guaranteed by suggesting standards that can link the framework with commercial solutions. Third, the framework aims at standardization on a national scale. The advisory council is comprised of members from the public and private sectors, and the academic world

is implementing standardization on a national scale. Fourth, the framework was designed in consideration of flexibility to accommodate possible changes. The modules of each service can be easily replaced, with interface-based interlocking minimizing the impact of inter-module changes. Fifth, the framework provides a diversity of convenient development and execution environments that enable modeling (UML, ERD), editing, compiling, and debugging in the Eclipse IDE.

The estimated effects of applying the e-government standard framework are as follows: First, a reduction in budgets can be achieved by preventing the redundant development of identical functions in each informatization project and by reusing common components. Second, the high dependency on previous project contractors that comes from being technologically dependent on them can be addressed by using a standardized development framework. Third, the free communication of the framework laid a foundation that enabled SMEs, which had been excluded from competitions due to the lack of a framework, to boost their business competitiveness. Fourth, although it requires a long time and a large amount of human resources, the use of standardized connectivity modules has improved interoperability. Fifth, given that the lack of development standards contributed to maintenance difficulties in the past, maintenance work has been facilitated through modularization processes compliant with the development standards.

The rapid spread of the standard framework version 1.0 has entailed a host of changes in related environments. Consequently, new directions for improving the standard framework version 2.0 were drawn from an analysis of such changes, as shown in Figure 7.



Figure 7. Development Plan of e-Government Standard Framework 2.0



By reflecting those improvement directions in the e-government standard framework 2.0, the open source of the standard framework 1.0 was upgraded and made to be more lightweight, while securing mobile execution and development environments, and common components. (Refer to Figure 8)



Figure 8. Improvement Plan of e-Government Standard Framework 2.0

3.2 Electronic Tax Bill

The evolution of IT,d the computerization of work processes underpinning all socioeconomic areas, and advancements in security technologies in the early 2000s combined to introduce the first electronic processing of tax invoices in 2001, as part of a general trend toward the digitization of almost all work processes. The use of electronic tax invoices must be preceded by creating data by the users in compliance with the standard specifications provided by the National Tax Office, and those wishing to issue an electronic tax invoice must transmit the invoice via a system using an official certificate or its equivalent encryption or digital signature technology in accordance with the Digital Signature Act.

The introduction and use of electronic tax invoices since 2001 have resulted in the emergence of a number of large enterprises using electronic tax invoices and a variety of ASPs providing Internet-based services. Since then, electronic tax invoices have been partially used in all industrial sectors in a piecemeal fashion. A number of distinguished ASPs have formed an electronic tax invoice market by providing services that allow users to manage electronic tax invoices, with services largely being divided into services for large enterprises issuing tax invoices independently and ASP-linked issuance services.

By the end of 2009, the use of electronic tax invoices became a common practice among most large enterprises to a certain extent. However, SMEs, which represent the majority of the industry, took a wait-and-see attitude at the time, putting off the use of electronic tax invoices. Their reluctance prevented them from using electronic



tax invoices in a proactive manner, since most had become accustomed to issuing and using paper tax invoices over the past three decades. In effect, SMEs have partially used electronic tax invoices in transactions with large enterprises.

In March 2009, a statute intended to fully implement the electronic tax invoice system was established by the National Tax Office, which posited that there was no reason to further delay the full implementation of electronic tax invoices given the full maturity of the environment needed for the use of electronic tax invoices after several years of listening to a diversity of opinions from various industries and holding public hearings based on the indirect experiences accumulated over an eight-year period through the partial use of electronic tax invoices all industry sectors, the spread of the Internet, the computerization of various government work processes, and the implementation of e-government initiatives.

Since the launch of the "e-tax invoice standard certification" service in 12 October 2009, NIPA has provided certification services that verify the compliance of facilities or systems related to the issuance and transmission of e-tax invoices for businesses, in accordance with the Basic Act for Electronic Transactions. In doing so, NIPA has been able to minimize the number of errors that may occur at the time of sending and receiving e-tax invoices or e-documents due to improper system implementation, and preventing the chaotic consequences that may result.

The standard certification is comprised of two procedures: one is a compliance vetting procedure intended to confirm that the facilities, e-document items, digital signatures, security (encryption, etc.), and transmission methods of an applicant are compliant with the established "e-tax invoice and e-tax invoice development guideline," while the other is a procedure for assigning standard certification credentials (certification number and certification logo) to businesses that have passed all screening processes, such as verifying interoperability for smooth intersystem connectivity.

Recently, NIPA has introduced an automatic verification system for securing transparency and fairness in the process of standard e-tax invoice certification, and an e-tax invoice standard certification site (www.taxcerti.or.kr) is up and running as a test bed for testing and inspection purposes in preparation for the standard certification service.

As shown below, there are three ways of adopting and managing electronic tax invoices, and the method best suited to the circumstances of each business must be selected and applied in advance in consideration of the needs of each business.

(1) Use of in-house ERP systems (in-house electronic tax invoice issuance systems)

- (2) Use of external ASP (application service provider) services
- (3) Use of dedicated issuance systems provided by the National Tax Office



To implement an in-house electronic tax invoices issuing system, a list of concepts covering the issuance and transmission of electronic tax invoices must be established in advance, while deciding whether to concurrently implement a dedicated messaging engine or to use the transmission engine of an external service provider in conjunction with the internal system. (Refer to Figure 9)



Figure 9. System Configuration when building In-House Electronic Tax Invoices System

Signing up for a membership and registering an official certificate must be performed prior to using an external ASP service. In doing so, the services provided by the ASP, such as the issuance and transmission of tax invoices, and statistical data management, become available. If such services are linked to a legacy system at this point, all work can be directly performed in the legacy system without having to access the external ASP service. (Refer to Figures 10 and 11)

As external ASPs provide a diversity of services tailored to the demands of each client, such as bespoke functions and UIs, dedicated individual homepages, and the like, optimized services can be selected after conducting a market survey according to the needs of each business.



Figure 10. System Configuration when using External ASP- Direct Log-in Type



file

Connections to legacy



Provision of various

connection methods by

Standard messaging engine

Submission by

transmitting by

the 15th of the

Figure 11. System Configuration when using external ASP- Internal Legacy System Link Type

ASP services linked to legacy systems are suitable for large enterprises with dedicated IT organizations, human resources, and a willingness to execute early investment, manage tax invoice information internally, and link ASP services to their existing legacy systems, such as ERP systems, etc. To achieve this, system development must be performed pursuant to the development standards for standard electronic tax invoices V3.0, officially released by the National IT Industry Promotion Agency. In addition, various tests and pilot operations are needed for stabilization purposes.

The ISERO site is available for those wishing to use a dedicated issuance system provided by the National Tax Office. In particular, the direct use of services available on the ISERO site (www.esero.go.kr) is recommended for SMEs issuing a small number of tax invoices on a monthly basis. The ISERO service is free, and provides only the basic standard functions needed for issuing and managing e-tax invoices. The fact that issuance and transmission are concurrently performed when issuing e-tax invoices on the ISERO site makes it difficult for its users to cancel issued e-tax invoices when a change or a mistake is discovered. And this is one downside of the ISERO service. To remedy this problem, receipt forecast email alerts are provided to buyers with respect to delayed e-tax invoice issuance on the same day.

To use the ISERO service, one must sign up for membership online using a public certificate or security card, and then register a business account. The issuance of tax invoices can be performed on a case-by-case basis, or using a batch issuance method that allows one to upload a maximum of 10 invoices at a time.



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

4.1 e-Government SOA services

The implementation of a service-oriented system was completed by applying the technology standards of a service-oriented architecture (SOA) to the e-government standard development framework. The implication of this is that the system can fully take advantage of the SOA in web services in order to provide full-fledged consumer-centered public services.

The e-government standard development framework is able to minimize any inconveniences that may result from a new project contractor's inevitable need to modify the unique development framework used for system development by the previous contractor of the project, and the resulting waste of time, money, and manpower. By introducing the SOA to the standard development framework, one can take advantage of the SOA when applying the standard development framework to state-backed system development projects in the future. In addition, the development of 125 types of highly reusable common services, such as log-in modules and bulletin boards, and the definition of their design and development standards have enabled standards-based development.

In particular, the Ministry of Public Administration and Security also implemented a plan with the purpose of increasing the re-use rate of existing common services, such as civil service guidance, by integrating the government's web service registration repositories (UDDI) that had been divided into 2 ~ 3 repositories into the "National Certified Service Registration Repository." To achieve this, the ministry secured consistency of service data, and integrated scattered data into a single repository within the range of the e-government standard common services and the development framework implementation project in 2010.



Country Progress Report

Singapore

30th AFACT Plenary Nov 19 – 22, 2012 Tehran, Iran







SECTION 1 – GENERAL CONDITION UPDATE

1.1 Programmes that deliver value

IT Master planning in Singapore started about three decades ago. Since then, tremendous progress has been made in improving the IT infrastructure and service delivery to the consumers both in public and private sectors. The most recent eGovt master plan was launched in 2011 with the objectives of Co-creating for greater values, connecting for active participation and catalysing whole of government transformation.

The individual government agencies themselves have launched eServices and programs to cater for the specific needs of their respective domains, which collectively contribute to the strategic goals of the master plan.

Some of the recent programmes include: **The Government Cloud (G-Cloud):** which provides for a robust, secure, shared environment for government agencies to procure computing resources on-demand.

Whole-Of-Government Enterprise Architecture: the programme aims to establish a federated view of all government agencies' enterprise architectures to optimise government **OneInbox:** This programme is developed with an objective of providing a one-stop official and trusted platform for citizens and businesses to receive electronic correspondences from the Government, in place of hardcopy letters.

Other programmes that were introduced in the last decade and continue to perform extremely well include:

eVistor: which enables foreigners to apply for immigration facilities, visa, visit pass and student's pass services. According to IDA Singapore this service has saves \$1.2 million per year for the government and \$2.1 million per year for the applicants and about 1 million hours reduction in waiting time.

Unique Entity Number (UEN): makes interaction with the Government simpler, faster and easier. It's a common means of identifying establishments across public sector agencies, thus facilitating the effective sharing of basic non-confidential information on establishments across public sector agencies to enable the delivery of better and more personalised services.

1.2 Programmes that deliver value

Singapore continues to be one of the most competitive economies in the world today. The Global Competitiveness Report 2011-2012 by the World Economic Forum ranks Singapore second in its Global Competitiveness Index. The ranking is

based on Singapore's performance in the 12 pillars of competitiveness, namely institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation.

On the infocomm front, the figures published by Infocomm Development Authority (IDA) of Singapore for Infocomm industry, the industry grew at 12% to reach \$70.39 billion in 2010. 66% of the overall revenue came from exports and 67% of the export revenue came from the Hardware segment. Among all the infocomm industry segments, the largest growth was registered by Telcom Services at 33.7%.

Computer usage amongst all enterprises was 79% in 2010. 41% of enterprises in Singapore had a web presence in 2010. One in five SMEs used Accounting & Finance software services in 2010, followed by Human Resource (HR) as the top software services adopted by SMEs.

Among households, 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.

The survey conducted by IDA of Singapore and Ministry Of Finance on e-Government Customer Perception for FY2010 indicate that 93% of persons transacted with the Government electronically either on their own or with assistance. The 7% were either senior citizens, blue-collar workers or the non-working group.

1.3 Infocomm as key enabler

Infocomm technology continues to be the key enabler for growth in Singapore and has become indispensable in all business sectors in the country. Infocomm has also enhanced living conditions of general public.

Singapore ranks second in the world The World Economic Forum Global Information Technology Report published by the World Economic Forum in cooperation with INSEAD .The report is regarded as the world's most comprehensive international assessment of the impact of ICT on the development process and the competitiveness of nations.

Singapore ranked second in United Nations e-Government Survey which assesses its 192 member states on the relative ability of their governments in harnessing infocomm technologies to deliver online services and engage its citizens in public policies.

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.



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

2.1 Big Data and Analytics

Data and analytics will play a crucial role for business and governments in the future .By having the ability to make logical sense of the deluge of complex data that is generated every second business and governments will be able to make to make informed, effective and timely decisions. It will improve their competitiveness and efficiency.

Infocomm Development Agency (IDA) of Singapore has decided to take an integrated approach that involves catalysing demand and enabling early adoption of analytics in key industry sectors, developing infocomm industry and manpower capabilities, establishing scalable and secure data exchange platforms, formulating the appropriate data policies, and developing data hubs that will deliver innovative data services and applications.

Steps are been taken to develop Singapore into an international Data & Analytics Hub by building up local industry and manpower capabilities to serve the Data & Analytics needs of enterprises and users around the world. Sectors are also being identified where Analytics can deliver significant economic value.

2.2 Incentives for IT adoption

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 Cloud ecosystem

'The cloud ecosystem' is the new buzz word among the Singapore's infocomm service providers and the policy makers alike. The IT community has been discussing over the last couple of years on the ideal cloud model for the country. Several debates have been held to address the challenges, opportunities and benefits of Cloud model.

The Government also has been keenly involved in developing this area. With the following objectives in mind the government is calling for proposals from various cloud providers:

- To support innovative projects that will help Enable infocomm infrastructure development for iN2015 vertical clusters (such as digital media, life sciences, manufacturing, financial services, retail & tourism, & education).
- Support specific lighthouse projects which would illustrate and promote the use of the infrastructure in the iN2015 verticals.
- Establish Singapore as a Shared Services Hub.
- Support infocomm capability development.
- To promote adoption of Cloud Computing in Singapore.

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.

3.2 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 ,Iower 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.

3.3 Unique Entity Number (UEN)

UEN is a common means of identifying establishments across public sector agencies, thus facilitating the effective sharing of basic non-confidential information on establishments across public sector agencies to enable the delivery of better and more personalised services. This also makes interactions with the Government simpler, faster and easier.

Most of the establishments had to use different identification numbers issued by different governing bodies when interacting with public sector agencies such as filing

of corporate tax returns, applying for import and export permits or submitting their employees' CPF contributions. Examples of such numbers include ACRA number issued by the Accounting and Corporate Regulatory Authority (ACRA) to registered companies, businesses and limited liability partnerships, the ROS number issued by Registry of Societies to registered societies, the Central Registration number issued by the Department of Statistics to various categories of establishments for survey or statistical purposes, and the CPF employer number issued by the Central Provident Fund Board to all employers.

To minimise the change, the ACRA number that was issued to about 85% of establishments, was leveraged as the UEN for businesses and local companies registered with ACRA. The remaining establishments such as societies, embassies, representative offices, and mutual benefit organisations etc which did not have ACRA numbers were issued with a new identifier as their UEN.

All establishments now have a UEN, and now use this number to interact with the government agencies.

3.4 data.gov.sg

data.gov.sg is the first stop portal to discover publicly-available government data, where people can access more 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



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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)*

3.5 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, lowcost 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)

3.6 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.

Onelnbox 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)

3.7 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)

3.8 Enterprise Architecture

An Enterprise Architecture (EA) refers to a set of blueprints that provide a holistic view of business functions, supporting data standards and ICT systems and services, regardless of the organisational structure and ownership of these systems. The EA for the Singapore Government comprises the Business Architecture (BA), Information Architecture (IA), Application Architecture (AA) and Technical Architecture (TA) of the government. This programme facilitates the identification of opportunities for collaboration among agencies, encouraging greater sharing of data, systems and processes across agencies.

Singapore Government Enterprise Architecture (SGEA) model provide a common understanding of business functions across government agencies, data standards to facilitate data exchange, and a view of common systems and services that can be reused. The methodology helps to guide agencies in developing their agency-wide EA.

Enterprise-Wide Architecture for Value Enhancement (eWAVE) is an EA Pilot that was conducted with related agencies using the artefacts from the SGEA to identify both agency and cross-agency opportunities. This EA effort highlighted opportunities for standardisation, shared data, shared systems, as well as ICT demand aggregation. To support EA modelling, analysis and presentation, the Singapore Government – Central Repository for Enterprise Architecture (SG-CREATE) was established to serve as a single government-wide EA repository that allows business and ICT information to be captured in a consistent manner using established standards. This information can be used for planning both agency-wide and government-wide.

The Whole-of-Government EA (WOG-EA) is the current EA programme that builds upon the foundational effort from the previous EA efforts. It aims to enable the government to improve its services and optimise its ICT assets by rigorously analysing and identifying strategic opportunities from its various lines of businesses, business information, software applications and technology investments, so as to meet key strategic outcomes laid out in the eGovernment 2015 master plan.

(Source: eGov.gov.sg)



3.9 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)

3.10 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 Master plan'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.

3.11 NGNBN extension

Over 19,000 commercial building and offices will be powered up to the Next Generation Nationwide Broadband Network (Next Gen NBN) allowing occupants of the Next Gen NBN connected non-residential buildings to benefit from the faster broadband speed and to improve its productivity.





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.

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.



Country Progress Report

Thailand

30th AFACT MEETING Tehran, Iran November, 2012



Ministry of Information and Communication Technology




Section I - General Condition Update

I. Background

First of all the **current** organization of the ICT ministry of Thailand is introduced. Presently as shown in the figure below, the Ministry has four government agencies: Office of the Minister; Office of the Permanent Secretary; the Meteorological Department; and National Statistical Office (NSO); three public agencies: Software Industry Promotion Agency (SIPA), Electronic Transactions Development Agency (ETDA), and Electronic Government Agency (EGA); and three state enterprises: TOT Public Company Limited, CAT Telecom Public Company Limited, and Thailand Post Company Limited.



As having widely known, information and communication technology (or ICT) is increasingly relevant to our economy as a fundamental part of every service, such as financial services, health care services, government services, telecommunication services, and even tourism services. Indeed, data and information is everywhere and it is growing every day. The potential economic impact of ICT is so substantial. Therefore, ICT can play a vital role as a dynamic technological tool to lead us to various sources of information and will empower us in all aspects such as economy, social, culture and politics.

In building national readiness with ICT, the ICT ministry has rolled out the Smart Thailand initiative to assure our readiness concerning ICT infrastructure, government



services and ICT industry. Indeed, Smart Thailand refers to the society that develops and uses ICT in a smart manner towards the concepts of sustainable development, equal opportunity, sufficient economy and connectivity.

In addition, the objective of the Smart Thailand concept is to raise the country's competitiveness ranking in the world, empower local stakeholders such as education, industry and business sectors to be ready as other regional countries when the Asean Economic Community (AEC) kicks off in 2015, and to reduce the cost of using ICT for Thai people and help them use ICT to improve their quality of life.

As shown in the figure below, this Smart Thailand program includes the establishment of three "Smart" initiatives; "Smart Networks": from densely populated capital into rural communities, from the National Broadband Policy to National Free Wi-Fi; "Smart Government": from the Government Information Network to Government Cloud Services; and "Smart Business": from e-Commerce development to Software Industry Development.



II. Smart Networks, Smart Government and Smart Business

ICT infrastructure, especially broadband network, is a key factor to become a smart country. Currently, the Thai government has established the National Broadband Policy to serve as a framework for implementing and driving the development of broadband services to help reduce inequality and to narrow the digital divide.

The government aims to expand the coverage of broadband network to at least 80 per cent of population by 2015 and at least 95 by the year 2020, as ensuring good quality of service at an affordable price.

At present, our existing fibre-optic broadband networks have already expanded their



coverage to serve 33 percent of the population. With the upgrading and installing of new telecommunication network equipment from this year until the year 2015, we would be able to service 87 percent of the citizens. This ensures we are able to reach our goal of providing broadband access to at least 80 percent of the population by the year 2015.

Moreover, we feel strongly confident that the 3G licensing auction will move forward in this coming October this year. This will be a tremendous boost in terms of broadband services offered to the general public in traditionally underserved areas. In addition, the Thai government plans to introduce 4G services very soon in order to increase economy growth and raise national competitiveness ranking of technological readiness in the World competitive rankings.

Apart from fibre optic network as the main broadband network throughout the country, including in public areas such as schools, hospitals and government places, it also requires the availability of Internet connection at affordable cost or free of charge. The ICT Ministry already initiated free Wi-Fi projects in collaboration with service providers, to offer the services in remote areas - called the last-mile areas - where fibre optic networks have not reached, and in cities throughout the country.

In the initial phase, this project aims to have 20,000 Wi-Fi hot spots at public areas such as airports, public transportation venues, government offices, and universities. This facility will be provided by TOT Corporation and CAT Telecom. In the next phase, it aims to welcome private sectors to join the project and have 250,000 free Wi-Fi hot spots throughout the country within the next five years.

Apart from Smart Network, government service is another key goal of the Smart Thailand project. The Electronics Government Agency (EGA) under the ICT Ministry presently plays a key role in driving the Smart Thailand project by promoting Smart Government.

The concept of Smart Government is to turn all government services - about 800 of them - to be on the electronic platform. It is divided into four key areas - education, health, government service, and agriculture. Smart Government was earlier known as e-government scheme. The government's back offices will be linked together to offer integrated one-stop-service. Examples of success of the e-government project are the Revenue Department's online tax service and the Passport Division's passport services.

Under the Smart Thailand scheme, the government aims to expand e-government services to be available online and to offer better quality of service by enabling the services with ICT. Therefore, this project requires collaboration among government agencies.

In addition, the Smart Business is the third initiative to enable us to reach our goal -Smart Thailand. Two public agencies – Software Industry Promotion Agency (SIPA) and Electronic Transactions Development Agency (ETDA) – both have main



responsibility for achieving this initiative. That is they have to facilitate and support ICT industry especially Thai SME, to enhance and promote online laws and commerce transactions, to develop more applications and contents, to develop ICT job / skills, to ensure ICT awareness, literacy & participation, to ensure Cybersecurity awareness, and to empower cyber defense capabilities.

III. Cybersecurity

The Thai government is well aware of the importance of having proper cyber security

Policies in place. In early 2012 we establish a National Cybersecurity Committee, chaired by the Prime Minister, to ensure that our executives at the highest levels are made aware of the seriousness of cyber security and contribute to (1) the development of our national cybersecurity policy framework 2012-2016 and (2) the execution of the framework.

Other national-level initiative includes the development of the national cybersecurity R&D strategic plan.



Section II – EDIFACT / ebXML/ XML Based Standards Development

I. The Progress of Inoperability development in Thai government

In electronic government development the seamless flow of information across government is required. The inter-system operation could not be easily realized since their information systems are different. Thailand Electronic Government Interoperability Framework (TH e-GIF) was first published in November 2006 in order to enable the interoperation across Thai e-Government information systems.

TH e-GIF includes a collection of guidelines, methodologies and technical specifications for interoperability development. They include a number of technical specification published by UN/CEFACT, for examples, UN/CEFACT Modeling Methodology (UMM), Core Component Technical Specification (CCTS), UML Profile for Core Component (UPCC), and XML Naming and Design Rules.

However unlike trading and other ordinary business it is difficult and take much time to building interoperability in e-government developments using those specifications. The standardization process has been performed in various government units who need electronic interoperation. They include inter-agency electronic correspondence letter exchange, research information exchange, international trading process information exchange and etc.

A number of business processes and information models have been standardized for inter-agency electronic interoperation. A number of XML schemas and interoperation technical specifications have been published in order to support inter-agency electronic data exchange development.

In some area the development of the information system have been promoted by the government policy thus a number of software systems have been developed to support the inter-agency electronic operations become technically possible. The electronic correspondence letter management system is one of the success cases. In Thailand there are 20 ministries and more than 100 departments. These organizations communicate with each other under a specific regulation called 'official correspondence letter work regulation'. For years the organizations have procured and/or developed their own software system called 'electronic correspondence letter management system' (e-CMS) to manage those formal letters electronically.

The standards and specifications mentioned above enables those software systems to technically interoperate successfully. However technical development alone is not sufficient to make the real use happened. Recently a number of acts and regulations' amendments have been mandated, for example, electronic transaction acts, 'official correspondence letter work regulation' and so on. These law and regulations amendments support and accelerate the use of inter-agency electronic data exchange considerably.

In the case of e-CMS inter-agency data exchange, more than 150 agencies have



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achieved the interoperability of the software systems. In the case of ministry of public health (MOPH) which actively adopted e-CMS, by August 2012 eighty five units have been using e-CMS to officially send correspondence letter across agency electronically in real operations. Those are 9 ministerial departments and 76 provincial health offices. In addition, the ministry (MOPH) have announced their plan to extend the e-CMS use to its all subordinate hospitals by the year 2013.





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

I. Universal Service Obligation (USO)

Thailand's USO policy has been described in the Telecommunication Master Plan of 2008 and subsequent Government decisions. Based upon the Telecommunication Master Plan and other concerned Government policies, the National Broadcasting and Telecommunications Commission (NBTC) prepares an annual USO Plan, which decides the USO targets, criteria and other relevant conditions. The scheme consists of two options – Play or Pay. If the licensee chooses to 'Play', he submits proposal to that effect. If the proposal is accepted, it falls under the Universal Service provider category and qualifies for a three year operation. If the proposal is not accepted then the licensee falls under the 'Pay' category and pays 4% of the gross annual revenue to the Universal Service Fund (USF) and is qualified to complete under the competitive bidding process.

Some initial USO Pilot projects include:

- Telecentre for long distance education and rural development in Chiang-Rai province
- Tele Health Centre in Phang-Gha province
- Tele Centre for distance education in Mhaha-Sa-Ra-Kham province.

Several WiFi hotspots have been established under USO mechanism.



Country Progress Report

Vietnam

30th AFACT MEETING Tehran, Iran November, 2012



MINISTRY OF INDUSTRY AND TRADE
VIETNAM E-COMMERCE AND INFORMATION TECHNOLOGY AGENCY



Vietnam e-Commerce and Information Technology Agency (VECITA) Ministry of Industry and Trade

SECTION I - GENERAL CONDITION UPDATE

Period 2011-2012 is a milestone marking the end of the Master Plan on E-commerce Development for the 2006-2010 period and the start of 5 year implementation of Decision No. 1073/QD-TTg dated 12/07/2010 by the Prime Minister on approving the Master Plan on E-commerce Development for the 2011-2015 period.

The part will look into the most striking features of Vietnam's ecommerce after five years implementing the Master Plan on E-commerce.

1.1 LEGAL SYSTEM FOR E-COMMERCE HAS BEEN FORMED

By the end of 2011, the legal framework for Vietnam e-commerce development has been fundamentally established, with a series of legal texts including laws, decrees and circulars governing various aspects of IT and e-commerce application. Besides the specialized law system, enterprises, organizations and individuals conducting ecommerce application are advised to have a thorough understanding of and compliance with related provisions in legal texts on business and trade.

Legal framework for electronic transactions in general and for e-commerce in particular has been established with two main backbones being E-transactions and IT Law, eight guiding decrees, along with a series of circulars detailing specific aspects of electronic transactions in some particular application areas.

Law on E-transactions lays the fundamental legal basis for e-transactions in society by recognizing the legal effects of data message, simultaneously provides detailed regulations on e-signature, a factor ensuring the reliability of data messages at transactions. While the E-transaction Law focuses on legal effects of e-transactions, the IT Law is composed of provisions on the application and development of IT and measures to develop the infrastructure of these activities.



Figure 1: System of laws, decrees on e-transaction and IT



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Among five decrees guiding the implementation of E-transaction Law, there are three decrees focusing on the legal effects of data message in trade, finance and banking sectors. The Decree on E-commerce continues to be concretized by 2 circulars, including 1 decree guiding the information supply and contract conclusion on e-commerce websites and 1 decree defining the management on the operation of e-commerce websites for trading of goods or services. The two decrees guiding e-transactions in finance and banking sectors are also concretized by a number of circulars governing some particular areas such as securities, taxation, treasury, invoice, inter-baking electronic payment and so on.

	Decree No. 57/2006/ND-CP on E-commerce	Circular No.09/2008/TT-BCT guiding the E-commerce Decree regarding information supply and contract conclusion on e-commerce websites Circular No. 46/2010/TT-BCT on the operation management of e-commerce websites selling goods or
Law on Electronic Transactions	Decree No. 27/2007/ND-CP on Electronic transactions in financial activities	providing servicesCircular No. 50/2009/TT-BTC by Ministry of Finance guiding the conduct of electronic transactions on stock marketsCircular No. 180/2010/TT-BTC providing instructions on electronic transactions in the sector of taxationCircular No. 209/2010/TT-BTC providing for electronic transactions in the professional operation os State BankCircular No. 32/2011/TT-BTC guiding the creation,
	Decree No. 35/2007/ND-CP on Electronic transactions in banking activities Decree No.26/2007/ND-CP guiding the implementation of the E-transaction Law on digital signature and C/A services	issuance and use of electronic invoices for goods sales and service provision Circular No. 23/2010/TT-NHNN providing for the management, operation and use of inter-bank electronic payment system Circular No. 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 No 90/2008/ND-CP on	Circular No. 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
	Anti-spam	and Communication stipulating management registration numbers and template of certificate of management registration number for email, SMS and IM advertisement service providers
Law on Consumer Protection		

Table 1: Legal texts under the E-transaction Law and IT Law

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The 2nd draft of the new e-commerce decree in Vietnam to be finalized by the end of 2012:

Pursuant to the Trade Act of June 14, 2005;

Pursuant to the Law on Electronic Transactions November 29, 2005;

Pursuant to the Law on Information Technology June 29, 2006;

Pursuant to the Law on Competition December 3, 2004;

Pursuant to the Law on Consumer Protection November 17, 2010;

At the request of the Minister of Industry and Trade

GENERAL PROVISIONS

Scope of regulation: This Decree provides for the development, application and management of e-commerce in Vietnam.

Subject of application

This Decree applies to:

1. Traders, organizations and individuals involved in e-commerce activities in the territory of Vietnam, including:

a) traders, organizations and individuals in Vietnam.

b) Foreigners residing in Vietnam.

c) Traders, foreign institutions have presence in Vietnam through investment activities, establishment of branches, representative offices, or established under the domain name of the website in Vietnam.

2. Traders, organizations and individuals involved in e-commerce activities outside the territory of Vietnam in cases where the parties agree to the application of this Decree...

Different from three above decrees, the Decree on digital signatures and CA services is more technical, including concrete provisions, laying the foundation for the implementation of CA services – the most popular technical solution to ensure the legal effects of data message in economic, commercial and civil transactions. Similarly, the Anti-spam Decree governs several concrete activities of IT and ecommerce application such as sending a great number of electronic mails and messages including advertisement.

Besides legal texts under the E-transaction Law, e-commerce activities are also governed by the IT Law as well as other legal texts. Among issues stipulated in the IT Law, there are two big issues being regulations on Internet – technical infrastructure of e-commerce in general and regulations on IT application in state agencies – the foundation for implementing the B2G model in the future.



LAW	Decree No. 64/2007/ND-CP on IT application in Government agencies	Circular No. 26/2009/TT-BTTTT stipulating the provision of information on and assurance of access to government agencies' websites Circular No. 25/2010/TT-BTTTT providing for collection, use, share, safety assurance and protection of personal information on websites or e-portals of State agencies	
ON	Decree No.97/2008/ND-CP on the management, provision and use of Internet services and electronic information on the Internet	Circular No. 05/2008/TT-BTTTT by Ministry of Information and Communication guiding some articles of Decree 97/2008/ND-CP on managing, providing, and using Internet services and electronic information on the Internet Circular No. 07/2008/TT-BTTTT by Ministry of Information and Communication guiding the provision of information on personal blogs Circular No. 09/2008/TT-BTTTT by Ministry of Information and Communication guiding the management and use of Internet resources Circular No. 10/2008/TT-BTTTT by Ministry of Information and Communication stipulating the settlement of disputes over Vietnam national domain names ".vn"	
IT	Decree No. 43/2011/ND-CP detailing regulations on the provision of online information and services on websites or e-portals of State agencies	of websites and online social network services Circular No. 24/2011/TT-BTTTT providing for creation, use and storage of descriptive data on websites or e-portals of State agencies	

-

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 socitey.

1.2 ONLINE PUBLIC SERVICES CONTINUED TO DEVELOP POSITIVELY

In the late 5 years, the state agencies have promoted the provision of online public services serving the business activities. Many important public services having direct impacts on commercial activities such as e-customs procedures, automatic import license, electronic certificate of origin certification... have been provided online on a large scale. This is one of the incentives for enterprises to apply e-commerce in order to reduce the time, administrative costs and to improve business effectiveness.

The electronic tax declaration system started the pilot implementation according to the Decision No. 1830/QD- BTC dated July 29, 2009 of Ministry of Finance. By the end of 2011, there were about 56,000 enterprises undertaking the electronic tax declaration, more than 5 times higher as compared with 10,000 in 2010.



By the end of 2011, the electronic tax declaration system has been implemented in 41 provinces, increasing 22 provinces in comparison with 2010. There were 69,393 tax payers registering for electronic tax declaration, in which, 54,364 ones declared electronic tax monthly.

Electronic tax declaration may be conducted directly with the Tax Department- by the iHTKK system or by using the services of T-VAN provided by the third parties (organizations providing value-added services for electronic transactions in the tax sector). According to statistics of the Taxation General Department, there have been 58,785 taxpayers registering to use iHTKK system and 51,535 carrying out tax declaration through this system monthly. There have been 10,608 tax payers registering to use T-VAN service and 2829 ones declaring tax through this service monthly. The total number of received electronic tax declarations by Tax Department is 719,176

The e-customs project started to be implemented from 26/06/2005 in accordance to the Decision No. 149/2005/QD-TTg of the Prime Minister on the pilot implementation of e-customs procedures.

Up to 15/10/2011, there have been 46.919 enterprises participating in the pilot ecustoms procedures project. The participating enterprises mainly operate in the field of processing and manufacture of goods for export from the five major customs localities including Ho Chi Minh City (30,256), Hai Phong (9,706), Hanoi (2,449), Lang Son (1,089), Binh Duong (771). The number of customs forms electronically declared reached 2,510,153, nearly 10 times higher than 2010. The export turnover conducted through e-customs procedures reached 198,932.94 million VND, 7 times higher in comparison with 2010. The total tax collected was 187,867.18 billion VND, 4.5 higher than 2010.

Electronic certificate of origin system (eCoSys) of Ministry of Trade and Industry is the first level-four online public service in commerce sector. Basically, eCoSys undertakes the management of issued certificate of origin (CO), and grant CO for enterprises. The implementation of eCoSys is based on Internet (web-based) and it does not require the users to the install special software so it is very convenient to use. The security of the transactions is guaranteed because the information is encrypted with digital signature technology before transmission.

By the end of 2011, more than 7,000 enterprises joining eCoSys, in which; over 2000 ones use the system regularly. The average number of electronic CO granted daily is 600. eCoSys has the participation of 18 Export and Import Department, 37 Industrial Zone Administration 9 CO granting offices of VCCI. Up to now, the total CO granted online is over 700,000.

In 2011, (eCoSys) was nominated to compete at the Future Gov Awards in the field of e-government. With the benefits that eCoSys bring to the enterprise community, eCoSys is ranked in the list of Top 50 out of 498 nominations coming from the



agencies in public sector of 16 countries. eCoSys is valued as one of the projects with the best implementation roadmap in the construction of e-government in Asia.

The system of granting automatic import license has been implemented by Ministry of Industry and Trade since 2008. Enterprises and the departments managing the licenses can perform the activities online such as submitting dossiers and granting licenses at www.nhapkhau.gov.vn. Through this system, enterprises are provided with the entire information on the procedures for license application, at the same time, they can keep track of their application status. Export and Import Department can gather the data on the volume, type, value of imported goods, serving the administration of the export and import activities.

The system has been provided online at the level 3 for all enterprises importing steel. They are able to print the application dossier from the system and track the status of processing dossiers online. Currently, there are 656 enterprises participating in the systems.

1.3 e-BUSINESS AND e-COMMERCE SERVICES WITH EDI ARE DEVELOPED RAPIDLY

Currently, most of enterprises using e-services in domestic/ cross-border through ebusiness and e-commerce websites are rapidly developed, with the variety of business models such as e-management inside and outside enterprises to connect trader/ manufacturer with commercial partners, group-buying, e-marketplace places, forums, shopping at social network, estate market, etc. ... The most common feature of these models is that there are many buyers and sellers involved in transactions on a common place – a website owned and managed by a trader or an organization.

On December 31, 2010, Ministry of Industry and Trade issued the Circular No. 46/2010/TT-BCT on the operation management of e-commerce websites selling goods or providing services. According to this circular, the above websites are given the common name of e-marketplace and they must register with Ministry of Industry and Trade. Ministry of Industry and Trade assigns Vietnam e-Commerce and Information Technology Agency (Vecita) to confirm the registration of e-marketplace.

According to the statistics of e-Commerce and Information Technology Agency, by the end of 2011, there are about 130 enterprises submitting dossiers for e-marketplace registration, in which, 35 are confirmed by the Agency.

From 35 registered e-marketplaces, Vecita has reckoned the statistics of online transactions, which are very positive. More than 1.5 million transactions are conducted through over 30 e-marketplaces, with the total transaction value of 4,130 billion VND. The enterprises providing e-marketplace services gain profits. 15 out of 30 surveyed enterprises reported on earning profits in 2011, with the total revenue of approximately 111 billion VND. These figures show that e-commerce services in general and e-marketplace in particular are a business method with many potential,



creating the development opportunities for both service providers and users to conduct other business activities on the online environment.

In addition, in 2011, there is a blooming of a new e-commerce model which has just formed but developing very fast in Vietnam: the group-buying websites. The business method according to group-buying method is conducted by applying the electronic mean with the highest social connectivity at present - the Internet. The blooming of this business method in 2011 has created a diversified Vietnam ecommerce market. Attracting a large number of participants, it also contributes to the spread of e-commerce applications in society.

1.4 THE STATUS OF ELECTRONIC PAYMENT SYSTEM

Electronic payment is a necessary condition of e-commerce. It can hardly optimize its advantages unless having an electronic payment system with high capability. The speed of Vietnam's ecommerce development in recent years requires a modern electronic payment system to support enterprises and consumers in maximizing the benefits of this new method.

Before 2005, electronic payment activities are limited at the scales of transactions among banks with a shortage of links and synchronized implementation. From 2006, a number of activities have been carried out to improve the capability and to diversify the participants of electronic payment, enhancing the connectivity among service providers. The gradual improvement of technical infrastructure and legal frame work has laid a solid foundation for the development of electronic payment methods in recent years.

Along with the rapid and diversified development of electronic transaction methods over time, the risks to information security in electronic environment are also increasing rapidly. The technical and legal solutions to information security for enterprises participating in transactions or e-payment have become more urgently indispensable.

Some technical security solutions such as token or sequence matrix have been applied. However, these measures are only capable of authenticating information of users at the transaction time without ensuring the anti-rejection factors, transaction security and data integrity so there is a lack of legal basis for dispute resolution. Digital signature is the optimized solutions which presents as a signature and stamp in traditional paper documents. However, the digital signatures are yet used in the electronic environment. Digital can be regarded as a legal and technical solution.

With the improvement of technical infrastructure for e-payment above, e-payment services in the passing time have developed so rapidly with a lot of convenient payment methods, satisfying various demands of customers. The payment service market is becoming more competitive because of the expansion of service providers, including banks and payment method providing enterprises.



SECTION II – EDIFACT/EBXML/XML BASED STANDARDS DEVELOPMENT

In 2012, MOIT and other enterprises are using ESB to be combine different systems into effective business processes is a challenging problem.

Especially some new technology such as MS ESB BizTalk Server includes a range of EDI technologies. The figure below illustrates the product's major components.



As the figure suggests, the heart of the product is the BizTalk Server Engine. The engine has two main parts:

- A messaging component that provides the ability to communicate with a range of other software. By relying on adapters for different kinds of communication, the engine can support a variety of protocols and data formats, including Web services and many others.
- Support for creating and running graphically-defined processes called orchestrations. Built on top of the engine's messaging components, orchestrations implement the logic that drives all or part of a business process.

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Conceptual MOIT Overview of B2B Solutions

Several other BizTalk components can also be used in concert with the engine, including:

- A Business Rule Engine that evaluates complex sets of rules.
- A Group Hub that lets developers and administrators monitor and manage the engine and the orchestrations it runs.
- An Enterprise Single Sign-On (SSO) facility that provides the ability to map authentication information between Windows and non-Windows systems.

On top of this foundation, BizTalk Server includes Business Activity Monitoring, which information workers use to monitor a running business process. The information is displayed in business rather than technical terms, and business users determine what information is displayed. The great majority of modern business processes depend at least in part on software. While some of these processes are supported by a single application, many others rely on diverse software systems. In many cases, this software has been created at different times, on different platforms, and using different technologies. Automating those business processes requires connecting diverse systems.

Addressing this challenge goes by various names: business process automation (BPA), business process management (BPM), and others. Regardless of the name, two scenarios are most important for application integration. One is connecting applications within a single organization, commonly referred to as enterprise application integration.

Japan provided over US\$32 million in aid to help Viet Nam modernise its customs system towards achieving a National Single Window.

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The Grant Agreement based on a 3-year project known as "Project for E-Customs and National Single Window for Customs Modernisation" was signed between the Ministry of Finance and the Japan International Co-operation Agency (JICA) in the capital yesterday.

The project aims to help Viet Nam implement the National Single Window that is essential in facilitating trade and investment as well as enhancing efficiency in customs management. Japan will provide its customs automation system, integrated with the National Single Window system (NACCS), to Viet Nam Customs.

JICA will dispatch experts to help formulate long-term strategies in information technology application. Experts will also help establish mechanisms for effective management, operation, maintenance and upgrading of information technology while reviewing amendments in the current legal framework within which to introduce the automation system and providing capacity building for IT experts. — VN news

Japan support Vietnam to develop e-customs infrastructure — The Government of Japan would like to assist Viet Nam in infrastructure development to help it build an industrialised economy, according to Ambassador Yasuaki Tanizaki.

Tanizaki, at a talk with Ha Noi Foreign Trade University students yesterday, stressed that for the success of industrialisation, infrastructure development is indispensable.

With the long-term objective of strengthening transport connectivity in the Mekong region, Japan would join forces with Viet Nam to develop infrastructure in the East-West and Southern Economic corridors, he added.

The former would focus on central Da Nang City, through Laos and Thailand, then to Myanmar while the later centres on HCM City, through Cambodia and Thailand, then to Myanmar.

Currently, many infrastructure projects enjoy Japanese investment and include the Nhat Tan Bridge as well as the HCM City – Long Thanh – Dau Giay and Da Nang – Quang Ngai highways.

In addition, Japan would support Viet Nam in building core industries to help it in its modernizing quest to 2020.

Viet Nam is now the second largest recipient of official development assistance (ODA) from Japan.

The number of Japanese ODA projects in Viet Nam was more than 200 last year, with total investment reaching US\$1.8 billion.

JICA promotes e-customs in Vietnam: The General Department of Vietnam Customs (GDVC), Ministry of Finance and the Japan International Cooperation Agency (JICA) have signed the record of discussion of Japanese Technical Cooperation Project for "Promoting E-customs in Vietnam".





The project follows up the Japanese grant aid project for "E-Customs and National Single Window for Customs Modernisation" which was signed last month.

The newly-signed Technical Cooperation Project aims to establish environment for operating and maintaining customs automation system integrated with Japan National Single Window system (NACCS) which will be transferred to Vietnam Customs.

It will help Vietnam establish necessary laws and regulations corresponding to the usage of NACCS, the structure to properly operate, maintain and manage the system and its information security policy and mechanism.

It will also provide training for officials of GDVC and users of private sector on knowledge and skills to properly use the system and develop necessary related human resources as well.

The project will be implemented during three years with budget of \$5.8 million. "We do hope that supports of the two grant aid projects – one for infrastructure development and the other for human resource development – shall complement one another to successfully transfer the so-called NACCS to Vietnam," said Tsuno Motonori, JICA chief representative in Vietnam.

"The system will create a breakthrough for customs modernisation, trade facilitation, and in the end, help increase Vietnam's competitiveness and enable further economic growth in the future," said Motonori.

Customs modernisation is one of JICA's priorities for Vietnam. Several JICA-funded projects in the field have been implemented such as the project for reinforcement of customs functions at Tan Cang-Cat Lai in Ho Chi Minh City.

http://www.vir.com.vn/news/business/jica-promotes-e-customs-in-vietnam.html

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

E-commerce application readiness index reflects necessary conditions for ecommerce application currently or in the near future although it is application not always corresponding to the scale or effectiveness of e-commerce application. Like previous years, 2011 e-commerce application readiness index was based on criteria of computer usage, internet connection, email account, information security and ecommerce human resource.

Tình hình phát triền Internet tháng 7/ 2012. Statistics on Internet development upto 7/ 2012	
- Số người sử dụng : Users	31078514
- Tỉ lệ số dân sừ dụng Internet : Users per capita	35.42 %
 Tông băng thông kênh kết nõi quốc tế của Việt Nam : Total International connection bandwidth of Vietnam 	342583 Mbps
- Tổng băng thông kênh kết nối trong nước: Total domestic connection bandwidth	425538 Mbps
(trong đó băng thông kết nối qua trạm trung chuyển VNIX): (Connection bandwidth through VNIX)	92000 Mbps)
 Tông lưu lượng trao đôi qua trạm trung chuyển VNIX : Total VNIX Network Traffic 	123824794 Gbytes
 Tông số tên miền .vn đã đăng ký: Dot VN domain names 	316343
 Tông số tên miền Tiếng Việt đã đăng ký: Vietnamese domain names 	804124
 Tông số địa chỉ IPv4 đã cấp : Allocated Ipv4 address 	14483968 địa chỉ
 Số lượng địa chỉ IPv6 qui đối theo đơn vị /64 đã cấp : Allocated Ipv6 address 	54951049216 /64 địa chỉ
- Tông thuê bao băng rộng (xDSL) : Total Broadband Subscribers	4322818

Report on internet statistics of Vietnamup to 7/2012

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

3.1 Projects of banking and payment system modernization of the State Bank

According to Decision No. 222/2005/QD-TTg, the State Bank is assigned to implement the Project of banking and payment system modernization sponsored by the World Bank. After the accomplishment of Phase 1 from 1997 to 2002, Phase 2 of the Project was exercised from June 2005 to 30th June, 2011 with 5 sub-projects, 01 of which was under the direct management of the State Bank (E-payment Interbank Project) and the remaining 04 sub-projects were implemented at the Bank for Agriculture and Rural Development, Maritime Bank, Bank for Investment and Development of Vietnam (BIDV) and Vietnam Joint-stock Commercial Bank for Industry and Trade (VietinBank). After 5 years of implementation, the Project of



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results:

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banking and payment systems modernization Phase 2 has achieved some specific

- The State Bank of Vietnam has established 01 backbone payment system with three components: high-value payment flow (providing immediate online payment service) low-value payment flow (providing slot online payment service); capital settlement process. Interbank e-payment system has expanded to 63 branches in provinces and cities, 03 units under the State Bank of Vietnam, connecting 94 credit organizations with 787 branches nationwide, handling average 80,000 transactions per day with the value of over 100,000 billion VND and processing time as of 10 seconds per transaction;

- The commercial banks participating in the Project are supported to complete the core banking system. 100% of branches participating in the project implemented successfully the core banking system, adding professional modules, offering customers more utility services, improving awareness of information technology. Notably, some credit organizations have deployed nearly 1,000 branches with over 2 million transactions per day.

3.2. Electronic customs project

The e-customs project started to be implemented from 26/06/2005 in accordance to the Decision No. 149/2005/QD-TTg of the Prime Minister on the pilot implementation of e-customs procedures. Ministry of Finance carries out the pilot implementation of e-customs procedures through 2 phases

- Phases 1 (from 10/2005 11/2009): pilot implementation on the narrow scale
- Phases 2 (from 12/2009 12/2011): pilot implementation on the large scale

Up to 15/10/2011, there have been 46.919 enterprises participating in the pilot ecustoms procedures project. The participating enterprises mainly operate in the field of processing and manufacture of goods for export from the five major customs localities including Ho Chi Minh City (30,256), Hai Phong (9,706), Hanoi (2,449), Lang Son (1,089), Binh Duong (771). The number of customs forms electronically declared reached 2,510,153, nearly 10 times higher than 2010. The export turnover conducted through e-customs procedures reached 198,932.94 million VND, 7 times higher in comparison with 2010. The total tax collected was 187,867.18 billion VND, 4.5 higher than 2010.

3.3. MuaChung – Viet Nam Joint Stock Communications Company

MuaChung.vn is an e-marketplace developed by Vietnam Joint Stock Telecommunications Coperation (VC Corp). Operating in 2011, MuaChung is currently one of the most successful websites with the model of purchasing by goup in Vietnam. The prominent feature of MuaChung is the tool able to send immediately the code of coupon to mobile users (through SMS) afer the customer's payment. It



takes only around 1 hour for customers to use the services without waiting time to receive coupons.

To facilitate the purchasing, MuaChung has developed an online payment system with many forms of payment. Customers can use Visa, Master Card or ATM card which are guaranteed forms of payment by Soha Payment - the payment solution also developed by VC Corp. In addition, MuaChung has developed friendly payment methods such as electronic money, prepaid payment, or the service of collecting money at home to meet the requirements of customers who do not want to pay by cards.

The fact that most of transactions are fully conducted in electronic environment shortens the process, makes transaction management highly automated, thus increase the business effectiveness and optimize the company's sales activities. According to Muachung's report to MOIT, there were 450 million transactions conducted on the website with the value of 125billion VND- one of the leading turnover of the e-marketplaces

There are 50,000 users involving in transactions via Muachung accounts; 250,000 users registering to receive daily notice of discount; and 1,000 customers having service provided every day. Along with such a large amount of transaction, the development of modern payment methods (especially online payment) and home delivery are the key elements to Muachung's success.

3.4. Payoo Electronic Wallet (VietUnion online service joint stock Corporation-Vietunion)

As one of the pioneers authorized to pilot the electronic wallet service, in 2010 VietUnion was admitted as the leading company when their product (electronic wallet Payoo) accounted for more than 40% market shares at that time. VietUnion currently has over 60,000 individual customers and over 200 companies, including many large enterprises such as EVN Hanoi, Viettel, FPT, SPT, A Telecommunications, PNC, HCMC Telecommunications, Nha Be Water Supply...

From June, 2010, in order to reduce costs on construction, technological, infrastructure, human resource and management costs, VietUnion has initiated online bill payment services (PayBill) (www.paybill.com.vn) with the first partner namely Ha Noi Electricity Company. Up to now, PayBill attracts thousands of users living in Thanh Xuan and Cau Giay- Ha Noi to pay electricity, water and telecommunications bill online. With the function accepting online payment for various bill kinds of various providers, the convenient information storage systems and a reasonable fee, the Paybill service has received great attention from users. To use this service, users open a Payoo electronic wallet at website: www.payoo.com.vn and then deposit money to the wallet through banks namely Vietcombank, Dong A Bank and 16 member banks of Banknetvn which are connected with Payoo.

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Figure 2: Intermediate payment model Payoo

Apart from periodic payment for essential services, through Payoo account, users can do business at over 60 e-commerce websites connected with Payoo. Payoo system is linked with reputable banks such as Agribank, Vietcombank, Navibank, Sacombank, Dong A Bank...By the end of 2011, Payoo have connected online with financial service providers, supporting 72% of the domestic banking account- owners to connect with the wallet account. It is expected that the number will increase to 90% in 2012.

3.5. Electronic air ticket service of Vietnam Airlines

Vietnam Airlines is one of the pioneer enterprises in e-commerce applications with a complete and thorough process, from the sales-delivery to payment. As a member of the International Aviation Association (IATA), Vietnam Airlines has been implementing the management system of electronic ticket service since 2005. Vietnam Airlines completely eliminated the issuance of paper tickets in early 2008 and officially started selling online tickets in 12/2008. From 6/2009 Vietnam Airlines launched all the utilities for customers through has its website www.vietnamairlines.com.vn. Since then, the website has been continuously improved to become one of the most complete and exemplary e-commerce websites of Vietnam.

When selling electronic air ticket on this website, Vietnam Airlines applies e-payment as a main payment method with the two common types of worldwide credit cards (VISA and MasterCard). Customers buying tickets will be requested to fill in information on his personal account and send payment orders on the site www.vietnamairlines.com.vn. It is committed by Vietnam Airlines that all payment activities are safe and personal information of customers are kept confidential so customers can be assured with this service. 131



In 2011, in order to strengthen the utilities and the card market., Vietnam Airlines cooperated with Smartlink and other banks to implement many special preferential programs in order to encourage customers to pay by domestic cards With the Program "taking off easier with domestic cards", debit card owners of banks participating in the program will receive special deals when buying air tickets at the website of Vietnam Airlines and paying by ATM card.

According to Vietnam Airlines, 05 months after launching the service of buying and paying air tickets by domestic cards, the total value of transactions was over 44 billion VND, of which, the transaction with value from 10 million VND and above accounted for nearly one quarter. Using ATM, customers will get more preferential treatment such as buying air tickets at a cheap price, getting free tickets for domestic routes or Southeast Asia routes. Additionally, card-issuing banks also implement many promotion programs such as awarding 100.000 VND to domestic debit card owners, or 3% sales discount transactions from 10 million VND and other preferential treatment.

On 19th Sep 2011, the number of Vietnam Airlines banks coordinating to implement the program on stimulating the card market is up to 9 banks: Vietcombank, Techcombank, Vietinbank, VIB, ACB, Eximbank, BIDV, MB and Sacombank PassportPlus / Plus Payment of Sacombank. The concrete types of cards are as follows:

- Connect 24 Vietnam Commercial Bank (VCB)
- F@st Access and F@st Access I Technological and Commercial Joint Stock Bank of Vietnam (TCB)
- Values Vietnam International Bank (VIB)
- V-Top Vietnam Joint Stock Commercial Export Import Bank (EIB)
- Multi Functions Card Dong A Joint Stock Commercial Bank
- E-Partner Card– Vietnam Joint Stock Commercial Bank for Industry and Trade
- ACB 365 Styles Card Asia Joint Stock Commercial Bank (ACB)
- Domestic Debit Card Military Bank
- Plus and Passport Plus Card Sai Gon Joint Stock Commercial Bank





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Reports of Committee/Working Group Chairs

- Report of Community Support Committee
- Report of Technology and Methodology Committee
- Report of eCOO Working Group



Committee/Working Group Progress Report

Community Support Committee

31st AFACT Plenary Teheran, Iran November 21st, 2012





According to the work programs proposed to 2011 Steering Committee Meeting at Taipei, the CSC reports the progresses accomplished by now.

CSC Promotion activities

- Ten full materials of 2011 eASIA Award Shortlist Projects³ have been published on AFACT Website. Only executive summaries of Indian and Thai projects uploaded because the organizations conducting the respective projects did not authorize AFACT Secretariat to publish the full materials.
- Have communicated with Mr. Sangwon Lim of ESCAP about promoting eASIA Award projects on ESCAP website, the hyper-link of AFACT website is taken care of by AFACT Secretariat.
- Have asked AFACT Secretariat to promote eASIA Award projects on ECO website, which is in process of communication.
- Suggested Dr. Ajin, UN/CEFAC T Rapporteur for Asia, to propose to UN/CEFACT promoting eASIA Award projects on UN/CEFACT website

CSC Research activities

- Regarding the conceptual framework of AFACT SW Database originally proposed by CSC in 2011, a suggested AFACT repository covering the following information was reported in the eCOO/CSC joint work meeting at Kish Island 2012:
 - ✓ The currently conducted or planned processes for simplified customs clearance;
 - Most updated and consolidated process of customs declaration for import, export, and transit respectively showing the interactions amongst roles players involved and messages required;
 - ✓ List of messages/MIGs for B2G processes (e.g. customs clearance, certificate/ permission application), G2G processes (e.g. cross referencing), etc.;
 - ✓ Operation/Service Framework of Single Window (e.g. overall, G2G, G2B, N2N, etc.);
 - ✓ Modification on acts and regulations for operating national single window.

■ Conclusions of eCOO/CSC joint work meeting at Kish Island on 21 May 2012

▶ Instead of setting up AFACT Database, repository is a better term for collecting data

³ 2011 eASIA Award shortlist projects include:

- 1. Trade Facilitation Category: ICEGATE Upgrade Project (India), General Cargo Operations Management System (Iran), and The Standardization Project of Technology and Information for Efficient Logistics Transport (Korea, Award winner)
- 2. Electronic Business in Private Sector Category: Realization of Green Cloud Computing EDI Collaboration with Financial EDI (Japan, Award winner), KTB Invest Smart Card (KBT Oil Fund Card & KTB Gold Invest Card) (Thailand), The Cool Chain System Development of Chinese Fast-Food (Chinese Taipei)
- 3. Electronic Business in Public Sector Category: Iran Fuel Card Project (Iran), National Science and Technology Information Service (Korea, Award winner), Impetus of E-invoices and its Application to the Metropolis (Chinese Taipei)
- Bridging Digital Divide Category: Tracenet (Certification & Traceability System for Organic Products) (India), The Project for Providing Assistance of Digital Opportunity Center (Chinese Taipei, Award winner), Shorten digital Gap by Broadband Internet (VNN network): Mega VNN, Fiber VNN and MegaPlus portal (Vietnam)



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and information from members to share experiences;

- For the purpose of differentiating from the existing repositories of ASEAN, ECE, WCO, etc. Advanced Cargo Information may be a needed area to collect status information from members;
- The cases practiced between members on eCOO data exchange are good examples in terms of signature, authentication, data harmonization, process, service model, etc.;
- Try to identify typical questions asked frequently by practitioners when planning single window or trade facilitation, which involve problems encountered and imply the motivations;
- The HoD is responsible for collecting relevant data and information regarding the regulation amendment, and translate into English for the AFACT Secretariat to upload to the Website;
- Locally published information including message list, SW service framework and information system architecture, customs declaration processes and messages involved, regulation of advanced cargo information report and other related regulation may be more easily collected by HoD and shared with members of AFACT;
- Requests for information collection and explanations will be provided for future discussion in StC concalls.

Actions to be taken in 2012 based on the conclusion

- Collect typical questions which are frequently asked by practitioners when planning single window or trade facilitation
- Design a form indicating suggested major items whose information will be collected and translated by HoDs. Some definitions and explanations need to be supplemented for clarification.
- NSW service framework, and system architecture, if developed;
- Customs declaration processes and documents involved (the title of documents only);
- Title of regulation amended to cope with the operation of NSW;
- A list of MIG developed for B2B, B2G and G2G data exchange based on the harmonized national dataset;
- Business process of Advanced Cargo Information Reporting
- An open-ended questionnaire for collecting information for AFACT Repository has been submitted to AFACT Secretariat on 25 September in order to distribute to all HoDs for filling out by 31 October. The CSC Chair has provided, at least, an example of answer to each question as reference to enable HoDs to fill out the needed answer. The open-ended questionnaire is shown below.

Open-ended Questionnaire for Collecting Information for The AFACT Repository of Single Window and Trade Facilitation

According to the minutes of AFACT CSC/TFT/eCOO Joint Work Meeting at Kish Island on 21 May 2012, CSC needs to collect information from the HoDs of respective AFACT members, which has to do with the status of planning and implementing Single Window and

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trade facilitation related initiatives. The collected information will be stored in the AFACT Repository for sharing and exchanging experiences amongst members.

Questions, to be answered in free format, are listed below. Each has an example to suggest the way of answering. Please kindly spend some time and help collect the needed information. Your prompt response to the request by the 31st October would be greatly appreciated.

1. Please provide 5 most frequently asked questions by practitioners and public servants of various governmental agencies in your country when planning single window or trade facilitation infrastructure, which involve problems encountered and imply the motivations.

Hint: The questions might cover business, technology, and legal aspects. **Example:**

- 1. There have been several VANs existed to provide message exchange and other related customs declaration added value services. What is the relationship between VANs and Single Window? Will the SW only provide G2G/N2N services for customs clearance and connect to the existing VANs for B2G customs declaration in the whole service chain; or it will replace VANs so that services providers can connect to the SW directly to declare customs for their clients?
- 2. What is the fee scheme charging for message exchange in the whole process of customs declaration? Will it charge less because the SW can take the customs declaration application directly from service providers?

Answer:

- 1.
- 2.
- 3.
- 4.
- 5.
- 2. Please provide a list of major legislation or amendment of existing regulations for SW implementation, e.g. amendment on customs declaration act, SW implementation and management rule, etc.

Example:

- 1. Chinese Taipei's Customs authority amended the Claus No. 10 of the Customs Act to provide legitimate base for SW operation.
- 2. Chinese Taipei's Customs authority developed and will implement "SW **Operation and Administration Regulation**" to define the delegation scheme, interaction with other governmental authorities, operation scope, administration affairs, and other relevant affairs.
- 3. Chinese Taipei's Customs authority amended "**Permission and Management Decree of VAN**" and "**Automation Regulation for Goods Declaration**" to fulfill the needs from the Customs Authority that VANs have to connect to SW for customs declaration instead of connecting to the customs system directly.

Answer:



2. 3.

- 3. Please delineate the characteristics of the national dataset in your country after harmonizing with other international standards for implementing SW, e.g. WCO Data Model V3.0, UN/CEFACT CC10b, etc.
 - The major and minor source of international standards to harmonize with your existing dataset of message.

Example:

Chinese Taipei: WCO DM V3.0 was the major source, whereas UN/CEFACT CC10a was the second one to map.

Answer:

• How much is the percentage your national dataset fully compliant with the major source of international standard?

Example:

Chinese Taipei: Totally 478 Data Elements for 51 messages, among which 314 mapped to WCO DE (66%) with remarks on some data elements

for the local needs, 164 added by TW as required (34%)

Answer:

- The most difficult part experienced in the process of data harmonization. **Example:**
 - Chinese Taipei: The business process kept changing during the period because of business process reengineering to meet the requirement of advanced shipment report and other changes to customs declaration regulations.

Answer:

 A list of locally published or under development of MIGs (XML-based) for SW message exchange. If there is no SW system yet, please provide the list of existing MIGs (EDI- or XML-based) operated at VANs for data exchange for customs declaration. Example:

Chinese Taipei:

Part of Customs Declaration Messages :

No.	Message ID	Message Name	WCO Catagory
1	N5101	Import / Transit Goods Manifest	CRI
2	N5102	Import / Transit Goods Warehoused	CRI
3	N5103	Bay Plan	CRI

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No.	Message ID	Message Name	WCO Catagory
4	N5107	Documents Required Notice	RES_IM1
5	N5108	Response to Warehouse Proprietor/Carrier	RES_CRI
6	N5109	Examination Required Notice	RES_IM1
7	N5110	Duty Memo/Remittance Application	RES_IM1
8	N5111	Fees Memo/Remittance Application	RES_IM1

Part of License/Permission Application Messages :

No.	Message ID	Message Name	WCO Catagory
1	NX201_01	Application Message for Import/Export Permit	IM1
2	NX201_07	Application Message for Import/Export Permit Cancel or Extension	IM1
3	NX202	Reply Message for Import/Export Permit Application	RES_ IM1
4	NX301	Message for Inspection Application	IM1
5	NX302	Reply Message for Inspection Application	RES_IM1
6	NX301_DN	Message for Wine Import Application	IM1
7	NX302_DN	Reply Message for Wine Import Application	RES_ IM1

Answer:

5. Please show the service framework and system architecture of SW **Example:**

Korean SW service infrastructure

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Korean UNI-PASS single window provides a one-stop service for declarers during the cargo arrival and clearance stage.







Answer: (You could provide even more detailed description and illustration on the SW service framework)

- Please show the customs declaration processes and message involved, which are being operated in your country.
 Example: (The translated version will be provided when responding to the open-ended questionnaire.)
 - Chinese Taipei: Export Customs Declaration Process (Partial) below, delineating operations of varied process stages undertaking by various players from the public and private sectors.

Answer:

Please provide the English version of the holistic business processes for import, export and transit declarations with remarks of messages needed in specific operations.

 Please describe the regulation of advanced cargo information report, if it has been planned or implemented in your country.
 Example:

Chinese Taipei advanced export cargo information report (partial):

Sea-freight export manifest:

The export manifest should be reported 24 hours before the shipment is loaded on the export vessel. The export manifest (message N5202 907) should be submitted to the Single Window by the transportation carrier (or his service agent) through transmission of the VAN service provider, which will be accepted by the Customs and operated accordingly.

Sea-freight export customs declaration:

The shipper or his outsourced customs broker needs to submit the formal export customs declaration report (message N5203) through VAN to the Single Window 1 hour before the cargo/shipment arrives at the customs control zone, which will be received and handled by the Customs accordingly. The Customs Control Zone covers container yard and warehouse for the in-land and port shipment.

Answer:



Committee/Working Group Progress Report

Technology and Methodology Committee

31st AFACT Plenary Teheran, Iran November 21st, 2012





SECTION I - Committee Members

There are 29 participants from 7 countries/economies during 2011-2012.

Afghanistan

Ghulam Farooq, Mohammed Rahim Nazari

Chinese Taipei

Frank Lin, Mei Li Chen, Spark Tsai

Iran

Adabi-Nasser, Atieh Alsadat Abedi, Ebrahim Karimi Ghahroodi, Esmail Khanlari, Fariborz Ghamari, Farzan Yavari, Ferdos Hatami, Hamid Golmohammadi, Laleh Asadi, Mojtaba Mohammad Rhan, Ravanbakhsh Behzadian, Soheila Sheibani Moghadam, Vahid Mehrsadeh, Naser Naghashzadeh

Japan

Hisanao Sugamata JEDIC

Korea

Kerri Ahn, Sang Ta Lee, Seok-Koo Ji, Soomin Park, Yongjang Kwon, Youngjoo Kim

Thailand

Ajin JIRACHIEFPATTANA, Atchapan Thabthimtong

Vietnam

Nguyen Huu Tuan, Nguyen Thuy Anh



SECTION II – Meeting Reports

2.1 TMC Meeting 2011/11/02 (Taipei City, Chinese Taipei)

The meeting topics are as follows.

(1) UN/CEFACT Update

- Methodology and Technology PDA status
- Technical Issues and Product strategy
- "BDH" Technical Specification update
- "CCBDA" Technical Specification update
 - ✓ Methodology and Technology PDA (MT PDA) is now working on "Programee of Work" which defines the mission and the activities for 2012-2013. And the task force is discussing the issues around Technical Specifications (CCTS, XML NDR, DTC, UCM, UPCC, CCBDA) and trying to establish the UN/CEFACT Product Strategy. The chair is joining the Tele-conference to follow those issues.

(2) Single Window Interoperable Framework

- Ms. Kerri Ahn (KLNET) provided the status on SOA project. ISO TC8 is developing a guideline for SW based on SOA. Ms. Kerri is the project leader of this project (ISO 28005-1).
- Mr. Young Kon Lee is surveying the status of the interoperability framework. He will make survey on SOA/Interoperability status in AFACT member countries. The questioner will be prepared.

(3) CCL Utilization in Asia

- The chair who is working in UNNExT Advisory group, introduced the status of UNNExT Data Harmonization Guide for Single Window.
- The chair introduced Japanese case of utilizing CCL.

2.2 TMC Meeting 2012/05/21 (Kish, Iran)

The meeting topics are as follows.

(1) UN/CEFACT Update

- Reliable Message Exchange
 - ✓ Project proposal for the new recommendation
 - Business Document Header
 - ✓ Reset the project proposal
- Core Component Business Document Assembly
 - ✓ Public review for CCBDA TS has been finalized
- CCTS V2.01 vs V3.0
- ✓ Coexist CCL_V2.01 and CCL_V3.0
- New Technical Framework
 - ✓ Discussion started in Methodology & Technology
- Open Data Exchange Framework
 - ✓ UN/CEFACT & TC154 Joint project started
 - ✓ Discussed AFACT representative for the project
- (2) Country Report from Japan
 - Supply chain Information Platform Study group (SIPS) was established under UN/CEFACT Japan Committee this April.
 - Objective: Promote effective and interoperable information platform based on UN/CEFACT standards for global supply chain in Asian region.
 - ✓ Concern: There are trading risks due to differentiation of trading culture in Asian region.
 - ✓ Information Technology may support establishing Open and Fair business.
- (3) CCL Utilization in Asia
 - As committed at the previous TMC meeting, Chinese Taipei and Japan have developed each local language supported CCL.
 - The chair explained how to use the local language supported CCL for developing the local industry EDI messages keeping the interoperability.





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 reelected.

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

3.4 Single Window Interoperability Framework

TMC has established a Working Group.

- 1. Name: SWIF (Single Window Interoperability Framework) WG
- 2. Membership and Structure



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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.

- Analysis for interoperability framework on SOA
- Analysis for e-trading business in Asia
- Study for SOA design methodology for SW
- Define the interface of components for SW
- Make a guideline and a work template
- Test guideline for SOA

5. Deliverables:

- Analysis report of Asia e-trading business
- A guideline and a work template for SOA in SW
- A standard for definition of component interface
- 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

3.5 Planed work items

TMC has started the study on the new work items which are the key subjects in UN/CEFACT Methodology and Technology PDA as follows.

- (1) Reliable Messaging
- (2) Core Interoperable Foundation Library (CIFL)
- (3) Open Data Interchange Framework (ODIF)



Committee/Working Group Progress Report

eCOO Working Group

31st AFACT Plenary Teheran, Iran November 21st, 2012

eCOO WG report

After two years of experience, the importance of eCOO WG has been constantly increasing for its members and the whole AFACT community. During two years of activity, we are now in a position to deal eCOO issues, with"its related projects and provide necessary consultation for the rest of the AFACT members.

The first prerequisite for electronic interchange of certificate of origin (eCOO) between countries, is to sign a trade agreement between the two (sender and receiver of the COO) mentioning that both side accept digital documents. Also it is quite necessary that both sides agree and trust on each other on related legal issues. The best starting point for this issue, is to provide trade agreements between countries, bearing in mind that having a common platform (like what has been introduced by PAA) to successfully exchange of documents is a must.

From the beginning of our work in eCOO WG, AFACT members believed that this pilot project will facilitate the execution of other projects in AFACT and will be a guide for other trade documents exchange projects. Due to the simplicity of this project, and because commonly only two departments are involved in this pilot project, execution of this project is not so difficult, however it will remove many of other barriers that other AFACT projects may face in the future and this can be easily seen in our two years of experience. The structure we defined in this project is easily extendable to other AFACT projects.

We hope that based on our experience, we will be able to provide a clear method/guideline for executing eCOO projects for all AFACT community.



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Meeting History

No.	Year	Date	Place	Remark
1 st	1990	Nov. 5~6	Tokyo, Japan	JS/EB Plenary
2 nd	1991	Jun. 25~26	Singapore	JKS/EB Plenary & EDICOM '91
3 rd	1991	Oct. 28~29	Tokyo, Japan	AS/EB Plenary
4 th	1992	Jun. 11~12	Tokyo, Japan	AS/EB Plenary & EDICOM '92
5 th	1992	Oct. 29~30	Seoul, Korea	AS/EB Plenary
6 th	1993	May. 20~21	Beijing, China	AS/EB Plenary
7 th	1993	Oct. 25~27	Seoul, Korea	AS/EB Plenary & EDICOM '93
8 th	1994	Jun. 6~8	Kuala Lumpur, Malaysia	AS/EB Plenary
9 th	1994	Nov. 28~30	Chinese Taipei	AS/EB Plenary & EDICOM '94
10 th	1995	Jun. 5~7	Bangkok, Thailand	AS/EB Plenary
11 th	1995	Nov. 1~3	Kuala Lumpur, Malaysia	AS/EB Plenary & EDICOM '95
12 th	1996	Jun. 4~7	Manila, Philippines	AS/EB Plenary
13 th	1996	Oct. 28~30	New Delhi, India	AS/EB Plenary & EDICOM '96
14 th	1997	Apr. 30~May. 2	Singapore	AS/EB Plenary & EDICOM '97
15 th	1997	Nov. 2~6	Colombo, Sri Lanka	AS/EB Plenary
16 th	1998	Jul. 4~10	Tehran, Iran	AS/EB Plenary
Management Team Meeting	1999	Apr. 22~23	Singapore	
17 th	1999	Sep. 5~10	Seoul, Korea	AS/EB→AFACT Plenary & EDICOM '99
18 th	2000	Sep. 11~15	Chinese Taipei	AFACT Plenary & EDICOM '00



No.	Year	Date	Place	Remark
19 th	2001	Oct. 1~3	Jakarta, Indonesia	AFACT Plenary & EDICOM '01
20 th	2002	Oct. 28~Nov. 1	Kuala Lumpur, Malaysia	AFACT Plenary & EDICOM '02
21 st	2004	Jan. 11~14	Karachi, Pakistan	AFACT Plenary & EDICOM '03
22 nd	2004	Sep. 19~22	Singapore	AFACT Plenary & EDICOM '04
23 rd	2005	Oct. 24~27	Hanoi, Viet Nam	AFACT Plenary & EDICOM '05
24 th	2006	Aug. 7~11	Karachi, Pakistan	AFACT Plenary & EDICOM '06
25 th	2007	Aug. 6~10	Bangkok, Thailand	AFACT Plenary & EDICOM '07
26 th	2008	Oct. 13~16	Seoul, Korea	AFACT Plenary & EDICOM '08
27 th	2009	Nov. 2~6	New Delhi, India	AFACT Plenary & EDICOM '09
28 th	2010	Nov. 24~26	Yokohama, Japan	AFACT Plenary & EDICOM '10
29 th	2011	Oct. 31~ Nov 4	Taipei, Chinese Taipei	AFACT Plenary & EDICOM '11
30 th	2012	Nov.19~Nov.22	Tehran, Iran	AFACT Plenary & EDICOM '12



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